DECEMBER, 1952

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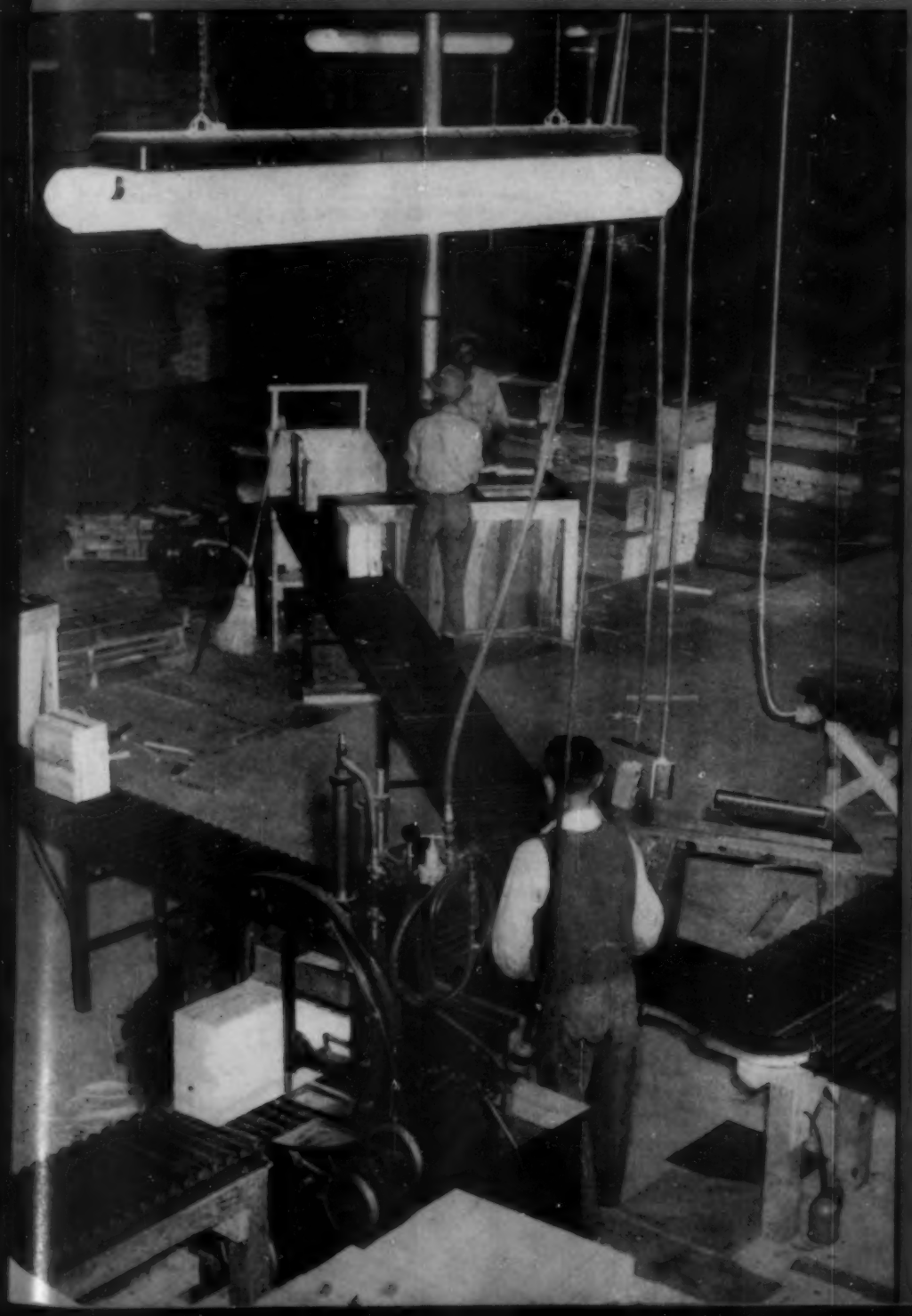
WOOD and wood products

THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE
OF THE $9 BILLION FOREST PRODUCTS INDUSTRY

M. L. Fleishel

See Page 21—WOOD SALUTES



Plant Layout
Modern woodworking machines produce more profits with steady flow of materials. See page 23.

New Veneered Panels
Revolutionary process forms core and bonds hardwood veneer faces in one operation. See page 26.

Lumber Grading
Proper placing of lights speeds work, means more accurate grading. Page 28.

Material Handling
Right techniques in lift truck operation cut handling cost. Page 31.

Other Items to See

- Foreign Woods
- Utilization
- Christmas Trees
- News and Trends
- Markets
- New Products
- Names and Events
- Woodictionary

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Quality Production at Fast Feeds...

44" wide Whitney No. 97 Double Surfacer at Hamilton Mfg. Co., getting out general run of production planing for office, printing, drafting, laboratory and school equipment.

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WOOD and wood products

Volume 57, No. 12

DECEMBER, 1952

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(advertisement)

Mauk Talk

Remember, when you're shopping for that Christmas gift for her, *sheer* is the nearest thing to nothing and it's prettier in black.

* * *

"Have some peanuts?"
"Thanks."
"Wanna neck?"
"No."
"Gimme back my peanuts."

* * *

An American woman is seldom old at forty. In fact, she's seldom forty.

* * *

The men who solve construction problems check with those who know lumber answers. The MAUK Lumber Co. has a staff of experts to analyze the material requirements of any job. The experience and resources of this leader in lumber are available to you.

See your job through successfully. See MAUK.

* * *

Simple Celia says brains never handicap a girl if she keeps them well hidden behind a low neckline.

* * *

The fella ordered a martini with gin at a ratio of twenty-seven to one. "O.K.", said the bartender. "And a twist of lemon peel?"

At which the fella snarled, "When I want a lemonade I'll ask for it."

* * *

A real lady is a gal who no's the men.

* * *

MAUK Seattle Lumber Co.
Seattle 5, Washington

The C. A. Mauk Lumber Co.
Toledo, Ohio

FASTER FASTENER News

"When it's TWINfast it stays fast"

Up-to-the-minute pointers on speeding assembly —cutting construction costs

NEW UNIFIED STANDARD CONSOLIDATES SQUARE AND HEXAGON BOLT AND NUT DIMENSIONS

A new, comprehensive product standard for square and hexagon bolts and nuts eliminates needless variety and duplication by consolidating specifications for various types of bolts and nuts that have similar proportions, characteristics, and applications.

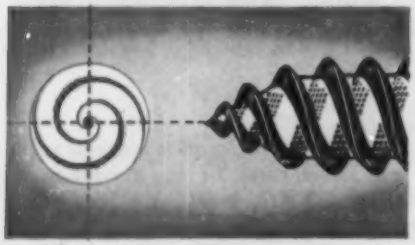
Previous dual classifications have been replaced by single series, using existing American Standards as a basis. The new standard has both national and international acceptance. It contains complete dimensional data, material recommendations, and product specifications.

Now, new designs can be based on the use of fasteners that are completely interchangeable. Further benefits include greater economy of manufacture, increased availability of standard bolts and nuts, and improved quality and service of products.

Prepared under the sponsorship of the American Society of Mechanical Engineers and the Society of Automotive Engineers, the new standard has been officially designated *American Standard ASA B18.2-1952.*

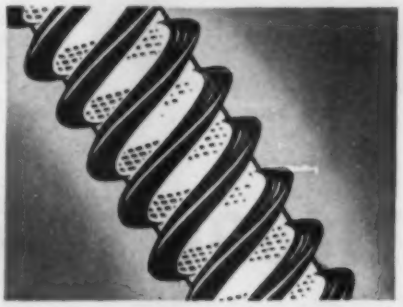
SINGLE, CENTERED POINT ASSURES QUICK STARTING, BALANCED DRIVING

The TWIN-fast Screw has a single, centered point, formed by the meeting of the twin threads at the axial center of the screw. This assures quick starting, self centering, and easier driving.



PARALLEL TWIN THREADS PROVIDE TWICE THREAD PITCH, REQUIRE HALF DRIVING TIME

Although TWIN-fast Screws are standard as to sizes and threads per inch, they provide twin threads which spiral the root from opposite sides. This results in a thread pitch that is approximately twice as great as that of ordinary screws.



There are two major advantages in this greater thread pitch: (a) With a single turn of the driver, twice as much thread area enters the wood as with ordinary screws under the same performance. Driving time is thereby cut in half. (b) Since only half as many turns of the driver are required, the threads cut by the screw as it travels into the wood are subjected to only half as much friction and wear. The stripping torque is substantially increased. The threads themselves are specially designed and have hard, sharp, blade-like edges which cut deep, clean threads into the wood.

TWIN-fast Screws CUT COSTS FOR WOOD, PLASTIC OR COMBINATION ASSEMBLIES

TWIN-fast Screws effect a better fastening in plastic and combination assemblies as well as in wood.

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Keene, N. H.

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National Screw & Mfg. Co.
Cleveland, Ohio
Los Angeles, Calif.

Stronghold Pacific Corp.
Downey (Los Angeles) Calif.

Stronghold Screw Products, Inc.
Chicago, Ill.

Southington Hardware Mfg. Co.
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DECEMBER, 1952

WOOD and wood products

VOL. 57, NO. 12

Industry News and Trends

Education

England Starts "Saw Doctor" School: The imperative need of practical facilities for instruction in saw and knife maintenance as a definite subject available in our trade schools and universities has long since been an acknowledged fact by the woodworking indusutry.

In July, 1951, WOOD AND WOOD PRODUCTS called attention to the urgent need for the establishment of training schools for sawfilers and knife grinders to augment the mere handful of trained men coming along to fill the vacancies of the ageing craftsmen now engaged in this field. In our October, 1952 issue we carried an article on the subject: "Better Trained Men—How to Get Them", which pointed out how industry-sponsored schools can help fill the need. Again in November, 1952 we cited Canada's alertness to the problem in the establishment of the Sawmill School of Duchesnay, in Quebec, with a full curiculum of the courses they are presenting.

Now we learn that the woodworking industry in England, faced with the same problem that faces us, has made an effort to help solve the problem by instituting a "saw doctor's course" at the City of Liverpool College of Technology. The instruction was planned by industry leaders, including the Crown Agents for the Colonies and the Saw Manufacturers' Association of Sheffield, England.

Remember the average of these craftsmen in the United States is well over 60 years. Unfortunately a mere handful of trained men are coming along to take their places. Again may we point out the seriousness of the situation and the need for immediate action in establishing training schools for these craftsmen.

Ceiling Price Changes

Western Wood Preserving: New ceiling prices for the western wood preserving industry were recently announced by the Office of Price Stabilizaton. They were established in pressure treating services and forest products preservatively treated under pressure, when the treatment is performed in the United States west of the 100th Meridian, or in any part of North and South Dakota.

The new order—Ceiling Price Regulation 170—effective September 22, 1952, applies to the products of 28 commercial pressure treating plants operated by 21 companies.

CHRISTMAS TREES: Indications are that there will be a shortage of Christmas trees this year, and the situation has changed from a buyer's to a seller's market.

Lumber

Shipments Below Production: Lumber shipments of 490 mills reporting to the National Lumber Trade Barometer were 2.4 percent below production for the week ending October 25, 1952. In the same week new orders of these mills were 2.0 percent below production. Unfilled orders of the reporting mills amounted to 36 percent of stocks. For the reporting softwood mills, unfilled orders were equivalent to 20 days production at the current rate and gross stocks were equivalent to 52 day's production.

For the year-to-date, shipments of reporting identical mills were 4.6 percent above production; orders were 3.1 percent above production.

West Coast: The weekly average of West Coast Lumber production in September was 222,185,000 b.f. or 118.7% of the 1947-1951 average. Orders averaged 207,549,000 b.f.; Shipments 232,204,000 b.f.; Weekly averages for August were: Production 223,184,000 b.f.; (119.2% of the 1947-1951 average); Orders 205,947,000 b.f.; Shipments 222,474,000 b.f.

Southern Pine: Shipments of Southern Pine by 104 mills reporting to the Southern Pine Association for the week ending October 29, 1952 amounted to 19,738,000 feet. Orders for the week totaled 21,063,000 feet.

Douglas Fir: Shipments of Douglas fir by the 159 mills reporting for the week ending October 25, 1952

were 114,612,000 feet. Production was 114,605,000 feet, and orders 115,064,000 feet.

Standard Grades Cut Costs: Construction engineers can save time and money by ordering standard grades of lumber instead of special grades, Frank J. Hanrahan, chief engineer of the National Lumber Manufacturers Association advised recently.

The ordering of special grades causes delay and boosts the cost of lumber, Mr. Hanrahan explained, because of the extra manufacturing and handling involved, the possibility of errors, and the general break-down of efficiency when mills convert to custom-made items. He predicted that in the next hundred years, the wood products industry will at least *equal* advances made in the manufacture, marketing and use of wood during the past century.

Plywood

Softwood Plywood for Defense: A unanimous recommendation for the revocation of NPA Order M-63 which requires softwood plywood producers to reserve a specified amount of their output for military and defense needs was recently made to the NPA by the Softwood Plywood Manufacturers Industry Advisory Committee.

Committee members were in agreement that revocation of the order would in no way hurt the military requirements for plywood. Reduction of military estimates of the needs for exterior softwood plywood for the fiscal year 1953 over those for 1952 made the order unnecessary, but pointed out that it would be reinstated in the future if it became necessary.

1951 Softwood Plywood Production: Department of Commerce figures show that 2,995,000,000 square feet of softwood plywood were produced in 1951. This indicates an increase of about 12 percent over the 2,676,000,000 square feet for 1950. A 4 percent gain was shown for interior plywood, and exterior plywood showed a 40 percent rise. Exterior type was about 27 percent of the total 1951 production as compared to about 21 percent produced in 1950.

Of the 81 softwood plywood mills participating in the survey from California, Washington and Oregon, Washington produced the greatest amount with 1,428,096,000 square feet in 1951.

Pulpwood

Minnesota's Pulpwood Production: Minnesota is currently producing twice as much pulpwood as the state can consume within its own borders. The annual production is a million cords, half of which is used by its own paper mills, the other half being shipped elsewhere—principally to Wisconsin mills.

Can Minnesota paper mills increase their production sufficiently to consume the half million cords of pulpwood they now export? Or will the State be faced with decreased timber production? These questions must some day be faced in the light of present trends, and satisfactory answers will depend largely upon careful study and planning *now* to meet the fast-changing conditions that are anticipated.

Timber

Timber Land Assessment: The Arkansas Wood Products Association plans to explore the possibility of drafting legislation giving authority to an independent Forestry Commission to fix ceilings on the assessed valuation of timber producing land.

The proposed legislation is described as a conservation measure,

Any operator can make and maintain these precision knives to uniformly close tolerances with this simplified

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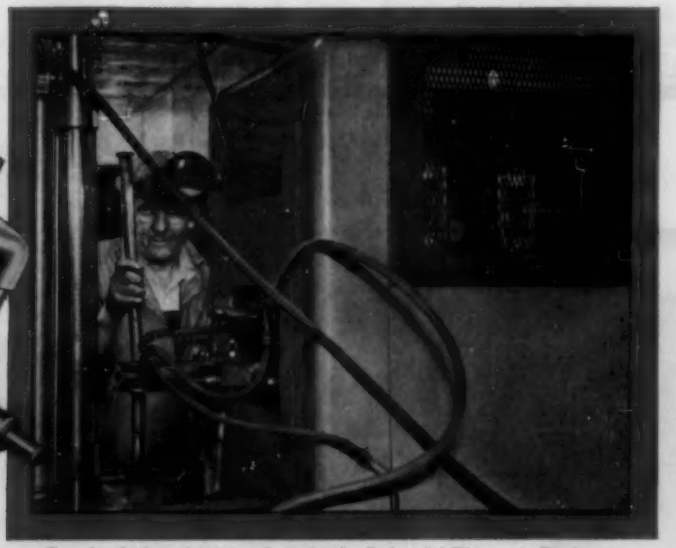

Case hardening of tractor shoe pins by Industrial Electronic Engineering Corp., Milwaukee, Wis., using 20 KW Allis-Chalmers induction heating unit equipped with Federal's rugged and reliable F-892 power triode.

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designed to prevent the cutting of premature timber in the state. The present tax levels did not take into consideration the production of mature timber lands, and placed a burden on producers, who sometimes are forced to cut premature trees in order to pay the taxes.

Timber Investments Profitable: Investment in timber promises lucrative returns and offers investors a prospective hedge against inflation, A. Z. Nelson, private forest consultant recently advised, according to the National Lumber Manufacturers Association.

Mr. Nelson said more and more people are finding timber a new, relatively safe and profitable field in which to invest their money. Investors have a choice, he pointed out, of putting their money directly into timberland or into the securities of paper and pulp, lumber and plywood companies.

Utilization

Wood Use Gains in New York: The large economic stake in New York's 13.5 million acres of woodlands is being emphasized through advances in wood utilization, according to a survey by the New York State Department of Commerce.

The survey shows that in 1950 the three major wood-using industries in the State—lumber and wood products, furniutre and fixtures, and paper and allied products—employed 126,000 workers and added 711 million dollars of value in the process of converting raw material into finished goods.

President's Report

(The following is another item from the President's Material Policy Commission Report on lumber and wood products.—Editors)

Exterior Finish: Lumber is meeting increasing competition from composition boards like cement-asbestos in residential construction and from sheet aluminum when available for farm construction. Advantages offered by such competitive surfaces are in the nature of reduced maintenance and repairs. Neither cement-asbestos nor aluminum, in most climates, requires any painting for upkeep and neither is subject to fungal or insecticidal attack.

Interior Finish: In recent years there has been a definite trend in residential construction and design of interior trim around door and window openings away from the broad, massive wood framing toward narrow and inconspicuous trim. Interior trim had been primarily artistic and only partly functional, and trends in fashions are impossible to predict with any assurance. However, the general guess is that there will not be a return to the former lavish use of wood trim and moldings in residential construction.

In nonresidential construction and in apartment dwellings, wood trim has already been much less used than formerly. Many instances of metal corners and metal shielding are to be found.

Cabinet Work: Painted or enameled steel cabinets have made considerable inroads in this field, particularly in postwar years. One factor contributing to this picture has been the desire on the part of sheet metal fabricators, who had good war products businesses, to keep their business operations at high levels. Many of these, including some very large manufacturers who had made airplane components, got into the metal cabinet manufacturing business and promoted their products vigorously.

One new development which may attain important commercial develop-

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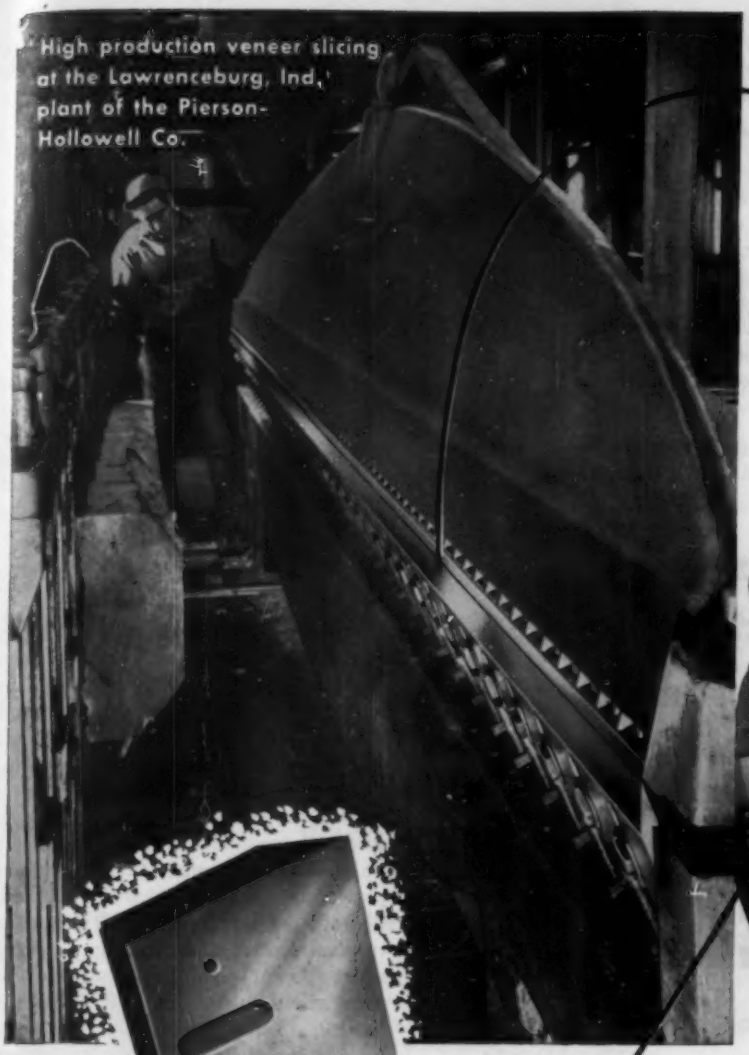

High production veneer slicing at the Lawrenceburg, Ind., plant of the Pierson-Hollowell Co.

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and watch OK VENEER KNIVES make the toughest jobs look easy

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GO WITH OHIOGREEN

THE OHIO KNIFE CO.

CINCINNATI 23, OHIO

ment that will affect the use of wood in cabinets is the possibility that cabinets can be made by molding from synthetic resins.

Forestry

Forests Cover Michigan's Once Denuded Area: Dense, green forests now cover millions of acres of Michigan lands that were desolated, stump-scarred wastelands a half a century ago. The young forests replace virgin stands that all but disappeared during Michigan's now legendary lumbering boom when they were cut at a phenomenal rate or were ravaged by forest fires.

Today Michigan leads all states in acreage devoted to forest plantations. More than 900,000 acres of state, federal and private lands have been planted with trees in the last 50 years.

About 70 percent of the total lumber production in the state is hardwoods, and 30 percent is softwoods. Lumber, however, constitutes only 30 percent of the total cubic foot volume of wood cut in Michigan. Pulpwood comprises 20 percent, and fuelwood 30 percent. The remainder is chiefly fence posts, ties, mine timbers, veneer logs, and cabin logs.

Louisiana Plans Forest Survey: Is Louisiana growing more timber than the state can use? This question, along with others of vital importance to the forest industry of Louisiana, is expected to be answered in mid-1953 when a proposed forest resources survey is completed.

An agreement providing for cooperative financing of the survey was signed in Alexandria, August 27, by H. L. Mitchell, Director of the Southern Forest Experiment Station, New Orleans, and F. H. Coughlin, President of the Central Louisiana Electric Company, Alexandria. James Mixon, State Forester; James Kitchens, Executive Secretary of the Louisiana Forestry Association; and Frank Bennett, technical consultant to CLECO, were present at the signing.

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Research

Test Tropical Wood for Ships: Little-known tropical woods of the Western Hemisphere may play an important part in boat building and other marine construction as a result of new research at Duke University, Durham, N. C.

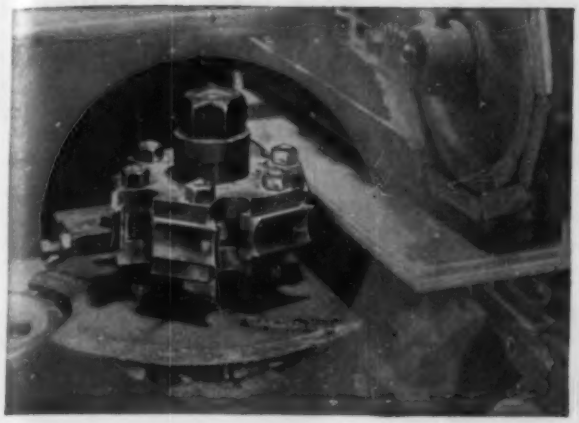
The project will center around a study of tropical woods which might be used in manufacturing marine plywoods. Duke research workers will study the best ways of seasoning tropical woods and making plywood veneer from them. Panels of the veneer will then be tested at the Duke Marine Laboratory in Beaufort, N. C., for their resistance to attack by ship worms and other forms of marine life.

Test Redwood Exterior Finishes: The California Redwood Association, in cooperation with the manufacturers of exterior finishes, inaugurated a finish testing program late in 1949. The purpose was to evaluate natural exterior finishes for redwood on the basis of their relative abilities to withstand weathering. Tests were made in an accelerated weathering machine as well as under natural weathering conditions.

To date, a total of 98 finish systems, including clears, both oils and varnishes, stain and clear combinations, penetrating sealers, water-repellent preservatives, lacquers, pigmented stains and bleaches, have been tested. Tests on 45 additional finishes are in process at this time.

The 14 systems, which are listed at present, are divided into clears which produce a gloss effect, stain and clear combinations which produce gloss and semi-gloss effects, pigmented stains and bleaching oils. The color changes which occurred during nat-

How to apply carbides to woodworking tools



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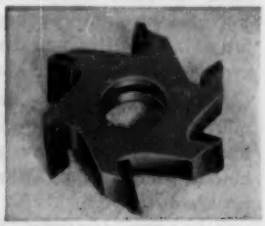
Steel knives on a glue line job dulled in two days. Carbide-tipped moulder head (at right) lasted over two months! Let the skill of carbide experts help *your* woodworking operation — use *free* Carboloy services.



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ural weathering test are also mentioned. Requests for the current supplement, together with the data sheet, should be sent to the California Redwood Association, 576 Sacramento Street, San Francisco 11, Calif.

Turpentine Research: Government research resulting in the developing of a synthetic lubricant from turpentine may well hold a key to a new era for naval stores industry in the South. Esters of pinic acid derived from turpentine have been developed which are excellent lubricants and plasticizers. The research has not been completed, in that a completely satisfactory and economical method has not been developed for making pinic acid on a commercial scale from turpentine. It is hoped that such a method will be developed.

Miscellaneous

Lead Pencils: In spite of the increasing competition each year from fountain pens, mechanical lead pencils, ball point pens and typewriters the wooden lead pencil business is still growing in size each year. In 1951 the manufacturers of wooden lead pencils did an all-time high business of 27 million dollars. Perhaps the biggest reason for this steady growth is the increase of literacy and education throughout the world. The biggest users of wooden lead pencils are (1) business, (2) government, (3) schools.

Wood Leads on SS United States: More wood was used in the construction of the SS United States —an all-metal ship—than is normally used in the building of large all-wood vessels. Called the world's greatest "wooden" ship, its construction required enough lumber, poles and blocks to stretch out 200 miles if placed end to end, according to the National Lumber Manufacturers Association, Washington, D. C.

The following tabulation indicates some of the tremendous quantities of wood required to build this mammoth new superliner:

BOARD FEET	PURPOSE
187,000	Pattern makers needs
150,000	Protective coverings
2,082,000	Braces, ladders, etc.
240,600	Staging
222,000	Keel track and cribbing
115,700	Shoring
66,900	Blocking

"Cold Rubber": It has been found that new chemicals developed from Gum Turpentine may find a place in the preparation of synthetic rubber and plastics. Tests have been made that tend to reveal these chemicals would provide good catalysts for the manufacture of "cold rubber". Further information is available from Naval Stores Research Division, U. S. D. A., Olustee, Florida.

Some things must be left to chance...

but ...THERE'S NO GAMBLE when you use any of the

MONITE CASEIN, UREA RESIN or POLYVINYL GLUES!

Name the job . . . you'll find there's a MONITE Glue that's faster . . . easier . . . less expensive to use!

FINE VENEERS—Makers of quality musical instruments know the difference the glue can make in gluing fine veneers. Chipping . . . peeling . . . discoloration—these problems can be avoided by using the right MONITE Glue.

CURVED PLYWOOD—Chairs, desks and other school furniture must be light . . . yet sturdy enough to stand rough usage. Produced to sell at low prices, manufacturing costs must be held to rock bottom. There's a MONITE Glue that meets these problems exactly.

LAMINATED LUMBER—Butcher's blocks, arches, counters, etc., require a glue of terrific joint strength and high water resistance. Where segments of wood must be bonded together permanently, select a MONITE Glue!

For everything from cribs to caskets . . . drinking straws to laminated structural members—quality-minded, cost-conscious manufacturers are specifying MONITE Glues! Constant testing . . . constant research . . . constant improvement has kept MONITE Glues abreast of the latest developments in the wood-working field for over 35 years. *H. L. Prestboldt, Pres.*

Ask for copy of "The First Pair of Skis".

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MONITE WATERPROOF GLUE CO.

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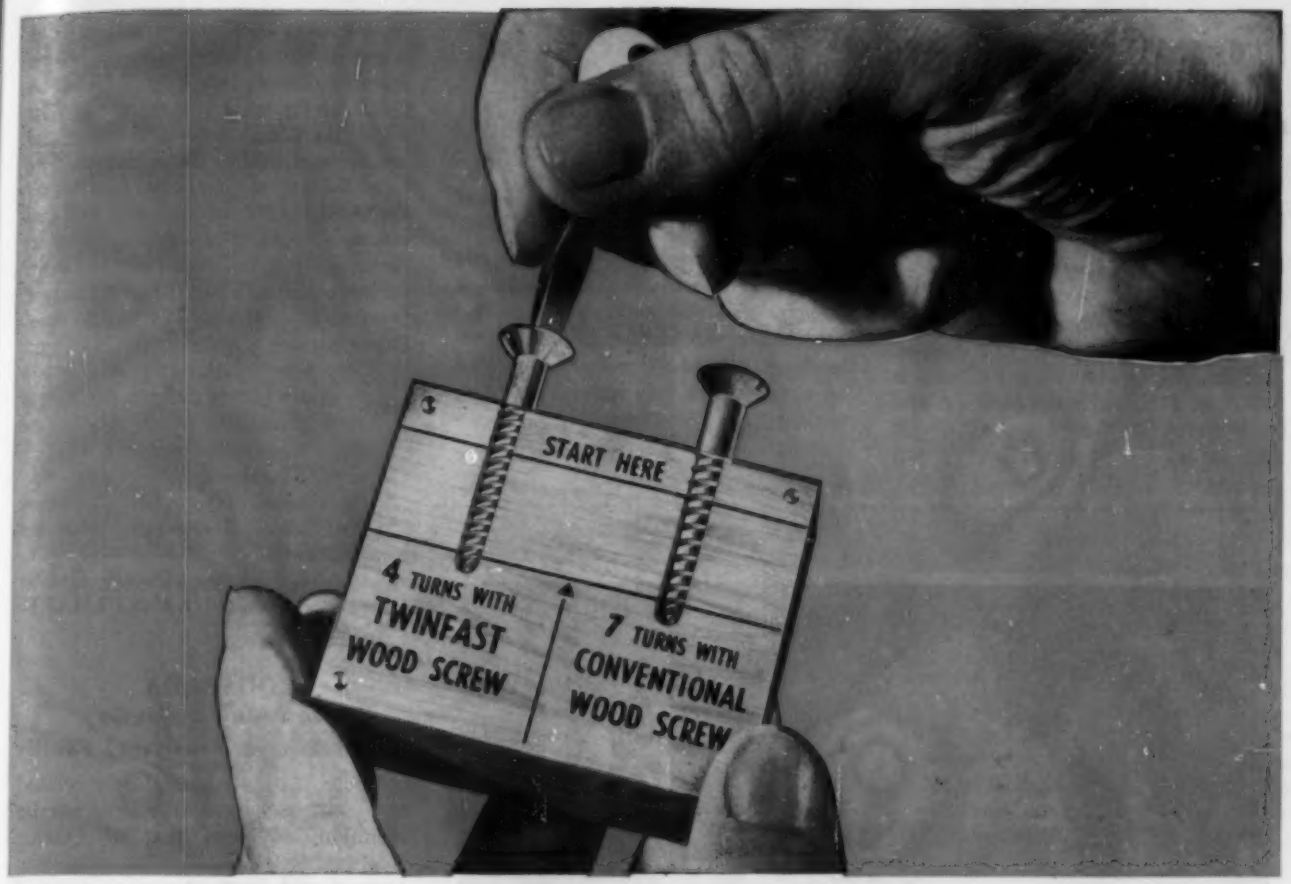
WOODICTIONARY

SHORTS

Lumber shorter than standard widths.



Now You See How Townsend TWINfast* Wood Screws Drive Twice as Fast—Hold Tighter

Imagine it's you holding the block of wood above. You have just given the conventional screw seven turns to move it from the starting line 5/8" to the next line. Now you turn the Townsend TWINfast screw with its double threads—one, two, three, only four turns—it has traveled the same distance. This faster driving is reflected favorably in your manufacturing costs through a reduction in man-hours and fatigue, by reduced assembly time and increased production. Yet TWINfast Screws cost no more than ordinary screws.

The deep, sharp TWINfast threads hold tighter because the cylindrical body and greater thread area provide an equal amount of contact with the material for the entire length of the thread. This means the TWINfast screw makes a tighter assembly and, in some instances, you can use fewer screws—reduce costs.

Take a few minutes and make this simple test yourself. A Townsend sales engineer will be glad to call and give you a demonstration. Write your nearest sales office or direct to the main office at New Brighton, Pa.

Townsend TWINfast Wood Screws Available in all Sizes and a Variety of Head Styles

Round, flat, oval, slotted or Phillips cross-recessed

Townsend

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NEW BRIGHTON, PENNSYLVANIA

Sales Offices in Principal Cities

Cherry Rivet Division • Santa Ana, California

*Reg. U. S. Pat. Office

THE FASTENING AUTHORITY—Experience: *over 136 years*—**Capacity:** *sixty-million parts daily*—**Products:** *over ten-thousand types of solid rivets—cold-headed parts—Cherry Blind Rivets—Twinfast Screws—self-tapping screws—tubular rivets—locknuts—special nails—formed wire parts.*
Plants: *New Brighton, Pennsylvania—Chicago, Illinois—Plymouth, Michigan—Santa Ana, California.*

Foreign Woods

By George N. Lamb

KANEELHART
—Licaria Cayennensis
Lauraceae (Laurel) family

The Laurel family contains a number of valuable timber trees mostly of tropical or sub-tropical distribution. Best known in the United States is Sassafras. It includes the avocado and trees useful for their essential oils. It also includes greenheart and South African stinkwood, a highly regarded cabinet wood.

There are several species of Licaria in Central and South America but it appears that this genus requires further study. KANEELHART is found in Surinam and French Guiana and appears to have very interesting possibilities.

The tree is of medium size, the heartwood is dark brown with a tinge of red or violet, very hard and heavy. Specific Gravity air dry 1.15. It is noted for its resistance to decay. The wood has a high wear resistance and can be machined to a fine surface. The Yale School of Forestry has tested KANEELHART exhaustively and has found it to be a wood of enormous strength. It is too heavy for ordinary cabinetwood uses but it has important possibilities in the field of special uses.
Other names:

Note: Since the species of Licaria are poorly defined the names given here may apply to one or more species)

Brown Silverballi,
Waibaina.....British Guiana
Kaneel-pisie, Kaneerjoe...Surinam
Bois canelle,
Cedre flibustier..French Guiana
Other woods called KANEELHART:
None.

QUARUBA
Vochysia (2 species)
Vochysiaceae (Vochysia) Family

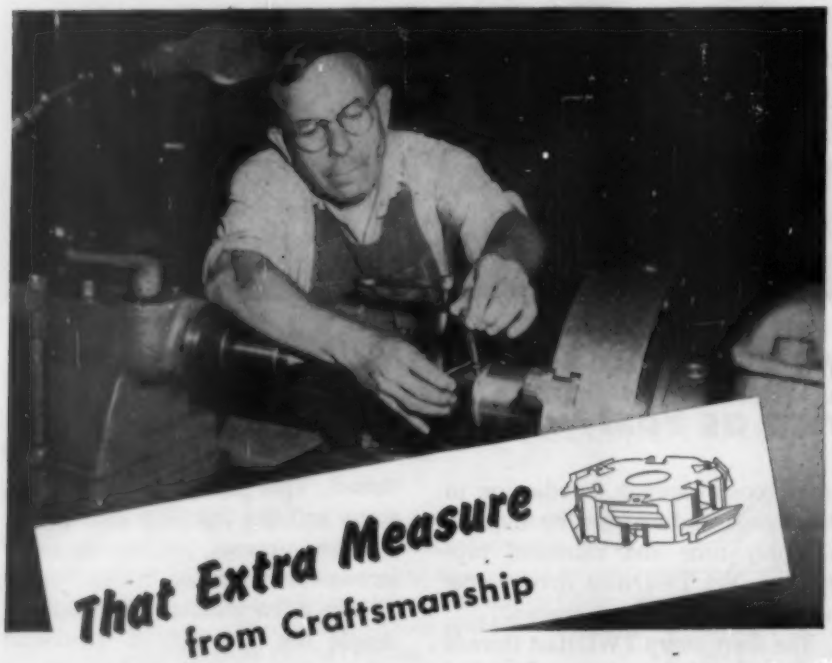
Vochysia is a genus closely related to Qualia and its timber may not be distinguished from that of Qualia. Vochysia is widely distributed in both Central and South American tropical areas. It is one of the largest of the Amazonian trees and when it blossoms, the tree is transformed into a gigantic bouquet of yellow flowers. Maximum height may reach 190 feet with diameters up to 6 feet.

The fresh heartwood of QUARUBA varies from light brown to pinkish yellow. It is distinct from the 1½ to 3" whitish or buff sapwood. Dry heartwood is dull pink to pinkish brown. Sometimes it has a golden cast with medium to high lustre. The texture is coarse to medium. The grain is straight or interlocked. When quartered a subdued stripe figure 1 to 2 inches wide is the result.

QUARUBA varies considerably in density with a specific gravity of 0.29 to 0.45, with an average of 0.37 which puts it in the yellow poplar class. QUARBUA has a tendency to misbehave during seasoning but material from Brazil has made better tests than material from Costa Rica.

QUARBUA has been imported experimentally and carefully tested but apparently it has no commercial possibilities.
Other names:

Brazil...Cedra-rana (False Cedar)
Surinam....Kwarie, Wanek walie
British Guiana .....Itaballi
Nicaragua ....Barba chele, Yemeri
Mexico .....Corpus
British Honduras)



Why do Diehl Cutterheads and cutters deliver that extra measure so prized by the woodworking industry? Because they are made by picked craftsmen who consider such tools a precision instrument and their own work a profession. Precision craftsmanship is present in every operation—machining, heat treating, inspection, testing. The result is cutterheads and cutters of uniform high quality—edges that *hold* under long, hard use. For top precision production, standardize on Diehl cutters and cutterheads made *"Where Craftsmanship is Honored."*

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"educator develops products.."

"improves distribution ....."

"veteran industry leader....."

Wood Salutes

With this issue, we are saluting three more top rank executives, each of whom is contributing his expert knowledge and experience in an important department of the forest products industry.

Bror L. Grondal

For 40 years, Prof. Bror L. Grondal has been on the faculty of the University of Washington's College of Forestry in Seattle. Over the years, he has earned an outstanding reputation in teaching, research and practical forestry.

As professor of forest products, he has been a teacher and personal adviser to 10 college generations of students who themselves have become leaders in wood and wood products industries and in forestry education.

He has served as a consultant for the Red Cedar Shingle Bureau for many years and as a consultant for one of the largest dry kiln manufacturing firms in the country.

Many forest products processes that he developed are now being used extensively in the industry. He is the author of a book. "The Handbook of Red Cedar Shingles" that is recognized as an authoritative volume on wood shingles.

Dr. Grondal was born in Round Rock, Texas, May 15, 1889. He received his bachelor of arts degree from Bethany College, Kansas, in 1910 and his master of science degree in forestry from the University of Washington in 1912. He has been with the University ever since.

Robert Beggs

Robert Beggs has contributed, over his fifteen years in the industry, many ideas leading to improvement in hardwood plywoods and he has also made an important contribution to sound plywood distribution through his progressive work in the company of which he is now executive vice-president, Roddis Plywood Corp. of Marshfield, Wisc.

Beggs graduated from Lawrence College, Appleton, Wisc., in 1931.

After three years as personnel director for an insurance firm, he joined, in 1936, what was then called Roddis Veneer and Lumber Co.

In 1939, Beggs was sent to New York City to manage the company's warehouse there. In 1943, he was placed in charge of a project to organize the company's warehouse distribution system.

This system now numbers 18 warehouses from coast to coast and reflects Beggs' ideas on modern distribution methods.

Beggs returned to Marshfield in 1945 as vice-president in charge of sales. In 1948, he helped negotiate the purchase of Humboldt Plywood Corp., of which he is president.

Beggs is a member of the board of Producers' Council and a member of that groups dealer-producer coordinating committee.

M. L. Fleishel

M. L. Fleishel, who is president of the St. Joe Lumber and Export Co., has been associated with the lumber business nearly all his long business career. He has given generously of his time and effort to help his chosen industry serve the public better.

Fleishel began his career with the Louisiana Cypress Lumber Co. He was president or executive officer of a number of companies before moving to Florida in 1913 to build the large plant of the Carpenter-O'Brien Lumber Co.

In 1919, he became general manager of the Putman Lumber Co., being made president in 1925. Fleishel directed the vast activities of this company through its operating life until it closed down in 1945.

Fleishel then operated the former Putman forest lands as executive officer of Perpetual Forests, Inc.

In 1938, Fleishel organized the St. Joe Lumber Co., which he guided from the start.

Fleishel served for four years as president of the National Lumber Manufacturers Ass'n. He is treasurer of the Southern Pine Ass'n., of which he has been a director for many years. Fleishel is also a director of Southern Cypress Manufacturers Ass'n., as well as a number of banks.

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FURNITURE MANUFACTURERS

FEEL THE TREND!

THIS season's double trend toward modern traditional is straining the production lines of furniture manufacturers everywhere. But . . . wise manufacturers are comfortably meeting the style demands by letting GAMBLE BROTHERS furnish the fine wood parts they need.

GAMBLE BROTHERS wood parts (shapes . . . core stock . . . plastic-faced materials) are designed to your specifications, fully or semi-machined, solid or laminated. Get exactly what you want, as you need it.

BE there first with what your retail dealer needs for his customers. Enlarge your production capacity without delay and without needless expensive investment in new equipment by calling on GAMBLE BROTHERS. For more than fifty years, GAMBLE BROTHERS has successfully solved special wood stock problems for manufacture of fine furniture and many other wood products. Their knowledge of wood engineering and production can help you.

WRITE TODAY!

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In Southern and Appalachian Hardwoods,
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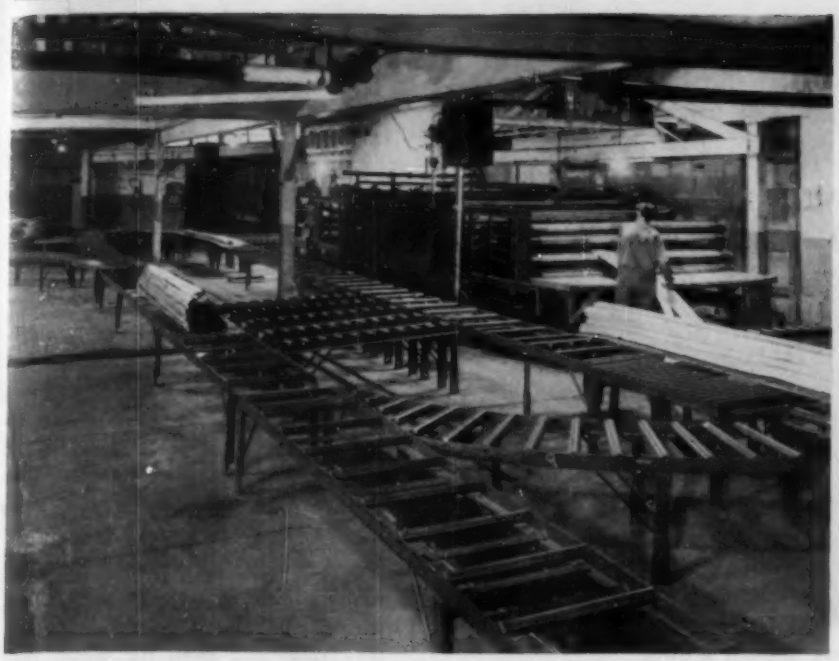


PROPER LAYOUT makes best use of modern machines.

Modern Machines and Engineered Plant Layout Cut Cost

Uninterrupted flow of materials is prerequiste to economical operation of woodworking plant.

A. L. Fader
A. L. Fader & Co.

Historically, the furniture manufacturing industry is practically as old as this country itself. At the beginning, all furniture was hand made and of necessity it was very simple, and extremely crude. Not until approximately 100 years ago, during the middle of the last century, was any attempt made to mechanize the industry. A few small companies were established to design and build a limited number of simple machines for woodworking plants. The growth of the industry was fairly rapid. As more time and labor saving equipment were made available, furniture plants grew in size and number, and the enterprise became a very profitable one. Labor was abundant, wages were low, and raw materials were readily available.

Immediately after World War I, many new companies were organized and many of the older plants expanded. About this time, the automobile industry began to emerge from its infancy. By virtue of its rapid growth, an immediate demand for large quantities of more modern, more highly productive, high speed, direct motor driven woodworking machines developed and, for the next ten years, most of the equipment produced was furnished to the automotive industry for the manufacture of bodies. This left the furniture industry with older, belt driven, plain bearing machines, expensive to operate and with limited productive capacity. During the depression of the Thirties the industry found itself incapable of producing furniture at a price for which it could be sold. A large number of companies were forced to suspend operation and were liquidated.

By the very nature of its origin and development, furniture manufacturing became, and still continues to be, a privately owned and financed industry, small by comparison with others, and more or less limited as far as its capacity to stimulate consumer demand is concerned.

The established method of marketing also sets up a barrier due to the fact that, in the remote past, it became the accepted practice from practically all manufacturers to market their product through dealers who strive, wherever possible, to conceal the identity of the manufacturer. As a result, this important basic industry, with its background, experience and tremendous invested capital, has never been master of its destiny, at least as far as association of name and product is concerned. Certainly this is not true of most of the other staple commodities purchased by the American public. It is natural, therefore, that the market for the product of the furniture manufacturer is governed largely by a consideration of price rather than the consumers' insistence upon a product with which they are familiar and the merit of which is well established. The solution of this problem is by no means a simple one.

Emphasis has been placed upon the skilled craftsmanship responsible for the excellence of design and workmanship, and while such craftsmen may produce a thing of beauty with crude tools, the cost by such a process would necessarily make the product unattainable to but very few. Excellence of design is essential, but low cost of production is paramount and this must be achieved if the industry is to survive.

During the past twenty years, the mortality in the industry, particularly in the northern portion of the country, has risen to approximately 60 per cent, which is a startling figure when compared with other industries in the same area. To compensate for this loss, a substantial number of plants were started and expanded in the south, where labor was abundant and comparatively cheap. and thus the struggle against this added competition has become even more acute.

It is an established fact that the amount of labor expended in the production of almost any lumber product, is higher in proportion to the sales price than any other basic commodity manufactured. There are many more men and women employed in furniture plants with a given volume than any other industry with an equivalent volume, in fact, the percentage is far beyond the basis established for a fair return on the investment involved. For an industry as competitive as it is, the first goal to be achieved is the reduction of labor costs. In most areas, labor is attracted to other industries paying wages much higher than furniture manufacturers can afford. Consequently, most plants operate shorthanded and their production cannot be maintained at maximum effi-

(continued on page 46)

NORWAY SPRUCE PLANTATION shows unusual growth.

Modern Tree Farm Methods Make Christmas Tree Profitable

Trees for Christmas trade develop steady source of income. Variety of pines as well as spruce, fir and balsam fir are adapted to plantation type growing.

C. Nelson Brown

Christmas trees have become big business. It is esitmated that 25 to 30 million trees are annually cut for the Yule-tide season. At a conservative figure of $2.00 per tree at retail or roadside, this means a business of at least $50,000,000. per year. As many trees are sold for from $2.50 to $8.00 or more, at retail, this is indeed a very conservative estimate. Together with trees, a vast amount of Christmas greens, principally branches, are taken from the same woods for decorative purposes.

Nearly every home likes to have a Christmas tree—at least a small table tree if not a large 5 to 7 foot tree, snugly arranged in the corner of the living room. And now stores, churches, schools, garages, hotels etc. are using them in large quantities. The lighting of the municipal tree in some central square or park has become a civic ceremony and custom in hundreds of small and large communities.

What is considered an ideal Christmas tree varies with the region and especially with sources of supply. A uniform and symmetrical crown, dark lustrous leaves that do not wither and fall too soon in well heated rooms and with stiff branches to hold up decorations are desirable features.

In the Lake States and Northeast the spruce and balsam fir are the trees most widely used. Douglas fir is preferred in the Rocky Mountains and West Coast regions. This tree is now shipped from the Rocky Mountains in carload quantities to the Mid-West, and South and as far East as Pittsburg and Buffalo, as well as to Mexico and even to Cuba. A concern in Minneapolis sells more than one million trees each year from black spruce swamps in Northern Minnesota to most of the states of the Union as well as to foreign countries.

In the South, the local pines and junipers are used although both red and black spruces from the North and Douglas fir from the West are used in increasingly large quantities. On the West Coast, the true firs (locally known as red, white, concolor and balsam firs) are used. In the regions about San Francisco Bay and Los Angeles, large quantities of red fir (Abies magnifica) from the high Sierras are sold locally as "silver tip Christmas tree." Some of the western National Forests are doing a big business in Christmas trees and decorations. From the National Forests last year about one million Christmas trees were sold.

Plantations originally set out for pulpwood or lumber are now being thinned or partly used for Christmas trees. In New York alone, more than 600,000,000 trees have been planted for all purposes since 1902. That state sells thousands of Christmas trees annually—the stumpage values based on public bids ranging from 50¢ to $1.25 or more per tree. And in addition to spruce, the traditional tree of the region, there has developed a strong demand for Scotch pine, red or Norway pine and even for white pine, especially in Rochester, Buffalo and other western New York communities. And still the annual harvest of Christmas spruce and balsam fir from eastern Canada and Northern New England comes rolling in hundreds of carload lots into the heavily populated centers of the Northeast and even south to Baltimore and Washington. Records show that 9 million trees were imported from Canada in 1951—practically all spruce and some balsam fir.

What is a desirable Christmas tree from the public viewpoint? More and more planted Scotch, red and white pine are sold. Locally dealers may call them silver or golden pines or other names. Some prefer trees sprayed with white, aluminum, dark green or other colored effects. Many trees are stored for months in cold storage and shipped in cartons.

Growing Forests Need Thinning

The outcry against cutting any trees for Christmas is about vitiated. When cut clear, it may be bad business and bad forestry. But young, growing forests need thinning. So do plantations. Many private forests planted by the Civilian Conservation Corps in 1933 to 1940 are now needing thinning. Both planted and natural forests are in need of thinning. The tops of many natural forest trees make excellent Christmas trees.

When trees are planted 6 feet x 6 feet apart, that means 1210 per acre, when 3 feet x 3 feet there are more than 3000 per acre. If planted for pulpwood or saw logs, not more than 200 to 300 trees will constitute the final stand per acre. Both of the above

SCOTCH PINE TOPS make excellent Christmas trees.

TRACTOR AND SLED is economical way to harvest trees.

spacings are used and sevaral in between such as 3½ feet x 3½ feet, 4 feet x 4 feet, etc. All need thinning to attain maximum rates of growth.

Experience with clients of the writer has demonstrated that considerable trees are ready to cut 6 to 7 years from planting. At that time some trees are only 3 feet to 4 feet tall and others may be 4 feet to 7 feet tall. This cutting continues for about 7 years when all merchantable Christmas trees are cut. Then the area is replanted. Some use lower side branches to develop into trees after cutting. But this requires costly labor and skillful attention.

Some trees, like white pine, are susceptable to blister rust and the weevil so they are seldom planted on a large scale. Norway spruce is also attacked to some extent by the weevil, but this is not true with white spruce. Norway or red pine is a very healthy, vigorous tree with lustrous dark colored foliage and is growing in favor as a Christmas tree. Among the spruces, the white or Canadian spruce is preferred for planting in the Northeast because of its uniform shape, relative freedom from disease or insects and its wide adaptability to soil conditions. Balsam fir has not been planted very much because it is a difficult tree to grow.

Christmas Trees Profitable

The growing of Christmas trees may be very profitable if cheap land is used and costs are held to a minimum. Some owners have made excellent profits from planted Christmas trees. In some states like New York, little trees are furnished at cost by the state at about $4 to $8 per 1000. From private nurseries, costs may vary from $15. to $50. or more per 1000 for the little trees.

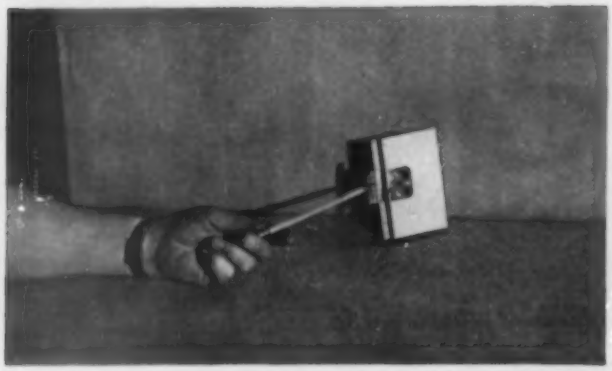
Assuming a cost of $20 per 1000 for trees, this would be 2¢ per tree. Planting at $15 per 1000 would mean 1½¢ per tree. Shipping charges, insurance, overhead, taxes and interest may come to 3¢ per tree. Thus the total cost may be 6½¢ per tree. Let's be conservative and say 10¢ per tree. Under normal conditions, survival of Christmas trees usually runs 90 to 96%. But probably only about 70 to 80% may result in salable Christmas trees. No trees should be sold for less than 50¢ on the stump. Some will sell for 75¢ to $1.00 or more on the stump on good accessible locations. Thus there is a wide spread between cost and sale prices. If carefully managed, there should be a good profit. Plantations should be located away from well traveled roads to avoid theft and grown on cheap land. The New York State Conservation Department has bought about 500,000 acres at a cost of $4.00 per acre. This is part of an estimated 5 million acres of abandoned farm land found in the state. There is considerable abandoned or unused farm land in most of the Northeast, Lake States and South that could be put to work growing Christmas or other trees.

VIGOROUS NORWAY PINES on New York tree farm.

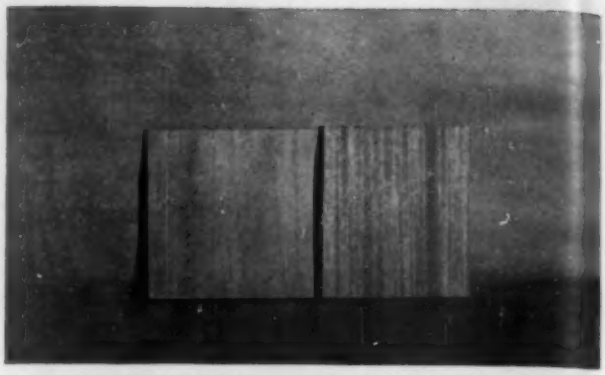
One owner has made from $3,000 to $30,000 per year net from the Christmas tree business. He gradually stepped up his planting from 3,000 to 30,000 trees per year until he had more than 200,000 planted trees. Costs were, of course, much lower than the above estimates. He sold trees on the stump and at roadside—but the big volume was trucked to parking lots in big cities just before Christmas where they were sold for $1.75 per tree up to 6 feet tall and $1.95 for those over 6 feet. Buyers selected their own trees, loaded them on cars and drove away.

In some cities, the movement of trees to sales areas has been greater than the demand. Or the retail prices may be too high to attract buyers. In some cases, losses have been incurred. It is a highly seasonal business. But in many large cities, Christmas trees may sell retail for from $3 to $10 or more apiece.

With the growing population and expanding demands for Christmas greenery, it is believed the Christmas tree business is here to stay. And the demand can be satisfactorily met without destroying the growing capacity of our plantations and natural forest areas if handled properly. It is a part of the old maxim that good forestry means wise use. Certainly we can have all the yule-tide trees we want without the feeling that our forests are being denuded and their growth capacities for the future are being sacrificed.



NEW HARDWOOD veneer panel is easily rabbited for cupboard doors to produce lip edges. Rabbited edge is smooth and ready to use. Board holds screws firmly.



¼" NEW HARDWOOD veneer panels made with gum (left) and mahogany (right) faces and wood particle core derived from spent pine chips, which were formerly a waste product from the turpentine industry.

New Process for Making Hardwood Veneer Panels

Wood research firm develops method of converting wood waste into panels. Core formed and veneer bonded in one operation.

Report of talk presented by Charles Kreider of Elmendorf Research Corp. at a recent Forest Products Research Society meeting at Clinton, Ia.

Elmendorf Research, Inc., has developed a low-cost process for manufacturing hardwood veneer panels that differs basically from conventional procedure for the manufacture of plywood. The Elmendorf process lends itself to the manufacture of panels from ⅛-inch to ¾-inch in thickness, and is particularly suited to stock panels of large size. These new low-cost hardwood veneer panels differ from conventional plywood in that the core of the panel is made of fine wood particles derived from wood waste, and the face veneers are much thinner than conventional face veneers. Moreover, open defects are readily plugged so that low-cost veneers can be used. A given log will produce from 3 to 6 times the panel footage obtained in conventional plywood manufacture.

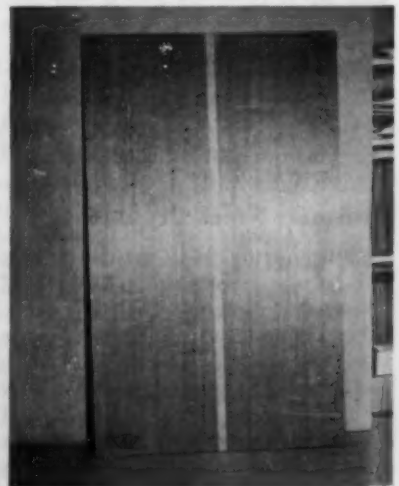
FIGURED VENEERS such as shown in new hardwood veneer panel above can be bonded directly to the wood particle core without cross-banding.

Thin Panels

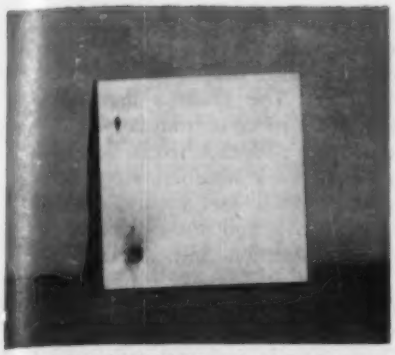
Panels from ⅛-inch to ¼-inch thick are referred to as thin panels. For purpose of illustration an analysis will be given of the ⅛-inch panel. The Elmendorf process lends itself to the use of relatively low-cost short logs, and to veneers that are thinner than conventional veneers. It is therefore necessary for the veneer cutter to adjust his thinking and to do things that he is not accustomed to doing.

First, for a low-cost utility panel, the veneer cutter must cut veneers as thin as 1/64-inch and reel these veneers at the lathe. This can be done and is being done, and practically any experienced lathe operator can be taught how even if he has never reeled veneer before. Automatic reeling equipment is not necessary. Some woods such as birch, maple and mahogany lend themselves readily to thin cutting and to reeling.

The second adjustment required in the veneer cutter's habits is elimination of the concept that all defects such as large knots and splits and knot holes must be clipped out. The Elmendorf process accepts all such defects and can accept them because all open defects are plugged. The veneers with plugged defects are used for the backs, although some times low-cost logs may require the use of patched veneer for the faces. Badly torn or split veneers are clipped and used as narrow strips for the backs.



TAPED VENEER is here used on new hardwood veneer panel. Panel is perfectly smooth.



THIN PONDEROSA pine faces can be used with new hardwood veneer panel. Panel shown is made 1/32" face and contains two knots. Knot holes are automatically plugged.

Most veneers are one-piece sheets and are used as such. Narrow veneers require no edge-jointing, splicing or taping. Clipped edges are satisfactory. All plugging is automatic, and the cost may be ignored as it is insignificant.

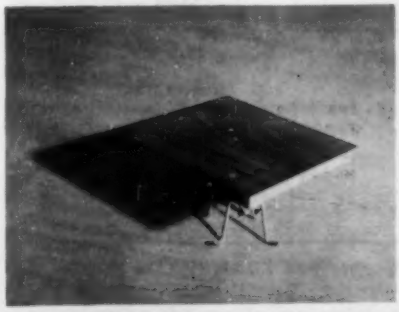
The thin hardwood veneers used can be cut smoother than standard thickness veneers, and unlike conventional plywood which must be sanded to get a smooth surface, the hardwood veneer panels made by the Elmendorf process are remarkably smooth as they come from the press. They need only be lightly buffed to brighten them to receive a fine furniture finish.

In the manufacture of the new low-cost hardwood veneer panels by the Elmendorf process, the veneers are handled only one time, and that as green veneers at the clipper. After that they appear again at the end of the process dried and glued to the core with all open defects plugged. The manufacture of the thin panels, starting with green veneer at the lathe, to the completed panel, takes only 2 to 4 minutes. No veneers remain to be sold for other purposes because there are no unused veneers, assuming that the logs cut are sound. Thin panels of stock size, namely 8' x 4', are best made with the veneer faces running the short way of the panel.

Thus reasonably sound 4' logs can be peeled and the veneers reeled so that many of the faces of 8' x 4' panels can be one-piece, and most of the backs can be one-piece.

The thin panels made by the Elmendorf process are as strong as conventional plywood of the same thickness.

The cores for these new low-cost hardwood veneer panels are made of dry wood waste derived from sawdust, shavings and hogged wood. Green wood waste must be dried. The prepared core material ready for the press can be spread in a continuous thick layer mechanically. There is no manual laying up of core material, piece by piece, as in conventional plywood manufacture.



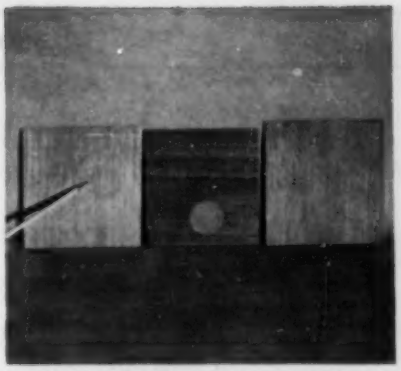
¾" FURNITURE panel with walnut veneer faces. The face veneers are bonded directly to the wood particle core. Edges are veneer banded.

It is obvious that the combination of the following factors results in a very low-cost panel:—

a. Use of short logs.
b. Use of thin veneers.
c. Automatic plugging of open defects.
d. Complete mechanization of manufacture.
e. Core made of wood waste.

Thick Panels

Panels from ½-inch to ¾-inch are herein referred to as thick panels. Such thick panels can also be made advantageously in large sizes, say 8' x 4', to be cut up by the purchaser for the manufacture of such items as cupboard doors, sliding doors, table tops and other furniture panels.



OPEN DEFECTS can be patched with either paper or veneer. Patching is done simultaneously with pressing of panels.

Cost estimates show that a ¾-inch thick panel faced with birch veneer can be made for less than 14 cents per square foot. Similar panels faced with poplar veneer will cost about 12 cents per square foot. These poplar veneered panels will compete with the lumber cores now used for furniture tops which cost about 30 cents per square foot including the cross-banding veneer. Thick panels made by the Elmendorf process have edges which may be easily profiled or shaped, or may be edge-banded with either veneer or lumber. The panels hold screws firmly.

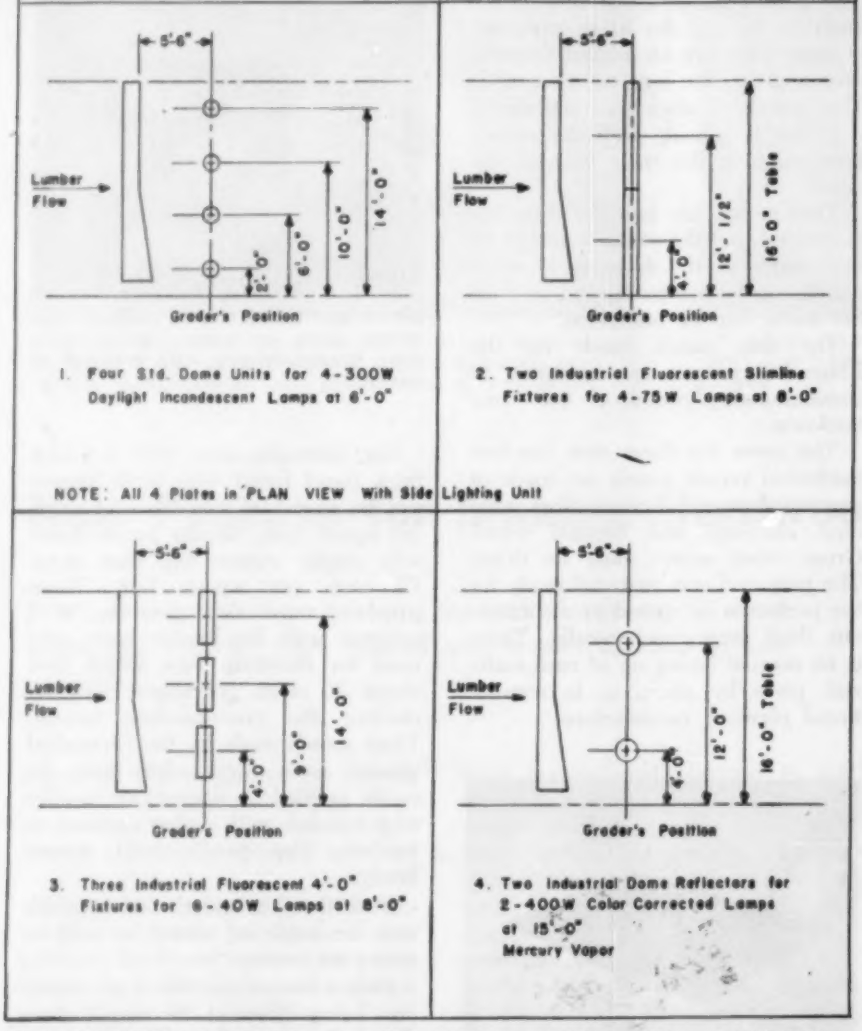
Both the thin and the thick panels may be made of sliced as well as rotary-cut veneers.

Only a limited number of producers are being licensed to manufacture these low-cost hardwood veneer panels under the Elmendorf patents. Pilot production of commercial size panels in both thickness ranges has proven most satisfactory. Demonstrations of the manufacturing process can be arranged for interested qualified parties.

DINETTE TABLE TOP is made of new hardwood veneer panel is ¾" thick. Panel shown is made with oak faces and lumber banding.

¾" NEW HARDWOOD veneer panel with 1/64" birch faces is used for cupboard doors.

Figure 1. Four Plans for Mounting Top Lighting Fixtures



PLACEMENTS OF LIGHTS, using different types and intensities, should follow this plan.

How to Place Lights for Grading

Proper lighting for the lumber grading permits more accuracy and speed. Number of turns needed to judge a board is reduced. Judging of color as it affects grade is speeded.

A. F. Pongracz

Correct and adequate lighting for rapid and accurate grading of lumber has long been a problem wherever the function of grading has been conducted. A great deal of work has been done on the subject. Reports, investigations and personal interviews indicate that the problem has not been fully solved by conventional, overhead lighting systems.

Considering preliminary findings of light levels ranging from 5 to 700 foot candles from installations and light sources varying from simple to complex, experimental work in the Western Pine Association Research Laboratory was undertaken on a controlled basis. The resulting developments described here were later field tested.

Conclusions were that a combination of overhead and side lighting, balanced for color, provides the best system yet devised for efficient lumber grading. Reactions from graders who have worked under the combination lighting conditions have been overwhelmingly enthusiastic.

Lumber grading involves two visual processes—perception of color characteristics and detection of contour variations. The grader's first impression of the piece is from color characteristics. These include knots (evaluated by number, size and location), pitch and stain (evaluated by amount) and rot (evaluated by amount, location and severity).

With this initial evaluation in mind, the grader begins to turn the piece, *searching* for contour variations. These include end and roller checks, torn and raised grain, loose or checked knots and skips or prominent knife marks.

When he has evaluated the contour variations he will proceed to reevaluate both color characteristics and contour variations and then grade the piece in conformance to established grading rules.

Under conventional overhead lighting systems, identification of contour deviations is a time-consuming process requiring several turns of each piece and movement of the grader's eyes along every inch of the piece *in search* of the deviations. When the light is of such quantity and quality that he cannot see the deviations clearly at the far end but does have evidence of them under his fingertips, he will automatically suspect that any deviation is continuous throughout the entire piece.

Laboratory and field work demonstrate that a combination of overhead and side lighting, color balanced, allows the grader to confirm or remove his suspicions and to do either faster and more accurately.

The Laboratory study also revealed that many lighting sources in current use were not completely satisfactory from the color rendition standpoint. In the study, the three most common sources of light now in use for overhead illumination—incandescent, fluorescent and mercury vapor—were installed and reviewed. Of these three sources, certain lamps, corresponding to each source, were found to be applicable for the combination lighting system. The following sources and lamps (designated by their color) were found to be preferable:

SOURCE	LAMP
Incandescent	Daylight
Flourescent	Daylight
Flourescent	Standard Cool White
Mercury Vapor	Color Corrected

No conventional overhead lighting system, however, regardless of the amount of light, would by itself show both color characteristics and contour variations equally well since the first

lie in one plane and the second are characterized by differences in elevation. It was therefore necessary to add a second set of lights at a very low angle (Figure 2) to produce grazing incidence or side lighting.

The advantages of side lighting are threefold. They reveal contour by (1) high lighting, (2) shadowing and (3) both highlighting and shadowing.

Experimentation revealed that a light of high intensity is needed to emphasize contour variations with out distorting color characteristics. The R-40, 150-watt reflector spotlight is the most suitable of those reveiwed for this application.

A light intensity ratio of 10 to 1 of side lighting to top lighting is needed to accentuate the very smallest of contour deviations. In technical terms, this side lighting, as measured by a light meter or exposure meter, amounts to 200 foot candles to 20 foot candles of top lighting.

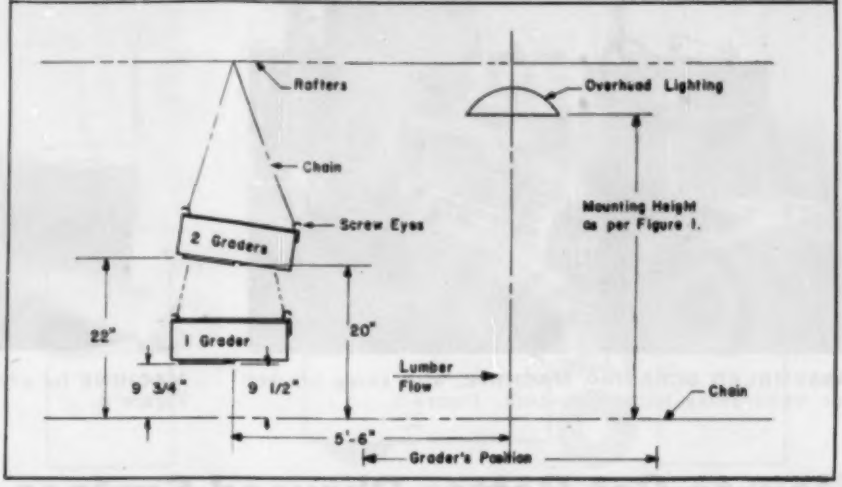
All lamps because of their physical characteristics favor certain colors more than others. Since the R-40 spotlight emits a reddish light, an overhead lamp emitting a bluish light is used to create an approximate balance in color rendition. Any of the four recommended lamps listed above will create an approximate balance in color rendition.

Placement of the overhead and side components of the combination system was found to be vital to the system's efficiency. A uniform level of illumination of 20 foot candles (average) of overhead lighting covering the entire grading table area from the side lighting unit for a distance of 11½ feet is desriable to obtain a uniform ratio between top and side lighting. Figure 1 illustrates plans for mounting the four most conventional fixtures being used in the mills.

Present top lighting systems may be altered to meet the recommended light value by moving the fixtures to conform to one of the four plans shown in Figure 1. Any attempt to achieve a higher level of illumination by top lighting tends to nullify the effectiveness of the side lighting. The light intensity ratio of 10 to 1 must be maintained for maximum efficiency.

Determining factors for side lighting a one-man grading table include sufficient clearance for the lumber to pass underneath, avoidance of hot spots and minimization of ineffective light area immediately in front of the unit. Recommended height (to bottom of unit) is 9¾" above chain with a one-degree angle. Using the bottom piece of the unit as a reference, the front edge is 9½" above the chain while the back edge is 9¾".

Figure 2. End View for Mounting Side Lighting Unit



PROPER SIDE LIGHTING is also important.

For a two-man grading table, the recommended height is 22" above chain height to the bottom of the unit with a ten-degree angle. Again using the unit's bottom piece as a reference, the front edge is 20" above the chain while the back edge is 22". (This installation was found to be less effective than the one-man setup because of the decrease of flat-angle lighting. The added height, however, is necessary to prevent shadow blackouts on the farther lumber when the nearer lumber is turned.)

Controlled light needed

A greater distance between graders has to be maintained as the width of the lumber increases so that no overshadowing by the grader nearest the unit is noticeable or annoying to the other grader.

Although no combination of lights, within reason, can successfully compete with proper daylight or sunlight conditions, uncontrolled mixtures of both constitute the most common source of eye fatigue and can be annoying and distracting to the grader. Since control can be exercised only over artificial lighting, it was found advisable to resort to it exclusively for best results. It is recommended that the grading table be shielded from both daylight and sunlight by erecting wooden baffles or cloth screens.

The Laboratory's lighting study also demonstrated that painting the grading table, as well as surrounding wall surfaces where practicable, enables the grader to relax his eyes occasionally. A restful shade of green is recommended.

Both units of the combination lighting system should be kept clean. Dirty reflectors and lamps can reduce light output values as much as 50 per cent. This variable value becomes more significant when lights are used in combination because of the tendency of one or the other, depending upon dust conditions, to pick up dirt more rapidly. If the lighting intensity ratio of 10-1 increases to 20-1, for example, color characteristics are distorted and contour variations over emphasized. If the ratio falls under 10-1, detection of contour deviations becomes more difficult so that searching again is necessary.

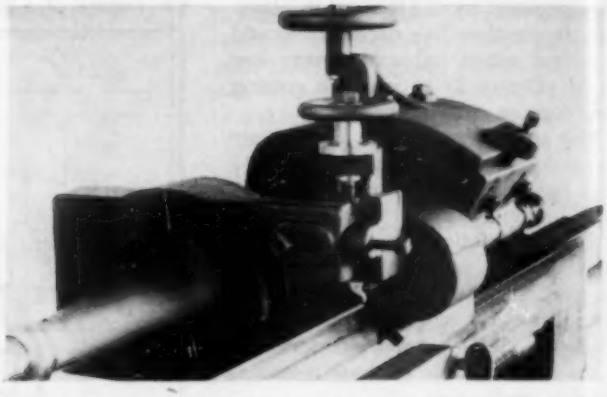
Since the side lights are of the sealed-beam type, the only concern is the dust accumulation on the outer surface. Daily cleaning with an air jet will insure a constant level of light intensity and add to lamp life by minimizing overheating. A definite maintenance program on the overhead fixture is also essential since the unit's performance is dependent upon the condition of the reflecting surface for both direction and intensity.

Keep proper voltage

Maintenance should include retention of proper line voltage to secure maximum light output from the lamp. A five per cent reduction on a 120V lamp, for example, will reduce light output 17 per cent; a 10 per cent reduction will cut light output 34 per cent.

(The foregoing article by Mr. Pongracz is a condensation of Western Pine Association Research Laboratory Note No. 45 by the same author. Copies of the Laboratory Note may be secured from the association in Portland, Oregon.)

ASSEMBLED SCRAPING MACHINE, with swing bracket for withdrawing knife head-stock. Figure 5.



MACHINE for grinding and turning edge of scraper knife. Figure 2.

How to Get Better Plywood Surface by Using Scraper

Scraping plywood in place of sanding generally gives better results.

Second of a series on practical glue problems in the shop, readers are urged to send in bothersome gluing problems for consideration in future articles. Problems of general interest will be answered as completely as possible. Where readers have answers other than those presented, please write, also. The Editors.

Tom Perry

Scraping Plywood

Q. 10. Some one has claimed that a scraped surface is better for assembly gluing than a sanded surface. Is that correct and why?

A. 10. The claim is correct, and there are good reasons: (a) The operations of sanding plywood tend to cut a bit deeper over soft areas than over hard spots, resulting in slightly uneven surfaces. In addition, sanding more or less rounds the ends and edges of a sheet of plywood. This results in irregular surface contacts in assembly gluing, which may lead to weak glue joints. (b) Sanding leaves considerable dust and shavings in the pores of the wood, both of which retard the penetration of the glue and interfere with a strong grip on the wood structure. (c) Knife cut surfaces, with properly sharpened tools, provide a hard even surface that favors better gluing than the somewhat velvety surface that is produced by sanding.

These comments should not be construed as a recommendation to discard sanders and substitute scrapers. Sanders are indispensible in a plywood factory and will do many things that a scraper will not, but there are important instances where scrapers will do better and cheaper work than sanders.

Q. 11. Will scrapers give good results on plywood with highly figured face veners?

A. 11. The answer is negative. Scrapers tend to tear out the angling grain effects that produuce attractive and interesting figure, as in crotches and burls. Scrapers give the best results on plain unfigured face veneers, where the grain is approximately parallel to the cutting plane. Scraping is entirely satisfactory with most types of stripe veneer, but usually not with figured oak. Scraping is a direct and continuous knife cut that exerts a greated pull on the wood surface than does the intermittent abrasive action of an abrasively coated paper or cloth.

Q. 12. What is the relative speed of scrapers and sanders?

A. 12. Good sanding, with a progression of coarse to fine sandpaper on the successive sander rolls, permits feeds of approximately twenty lineal feet per minute, with a top limit of about twenty five feet. On the other hand, scrapers allow feeding ratios up to sixty to eighty lineal feet per minute. The operator of a roll sander is seldom hurried, but a scraper keeps the operator exceedingly busy. On the average scrapers will turn out twice as much work as sanders with the same operating crew.

Q. 13. How can the uneven effects of sanding be reduced?

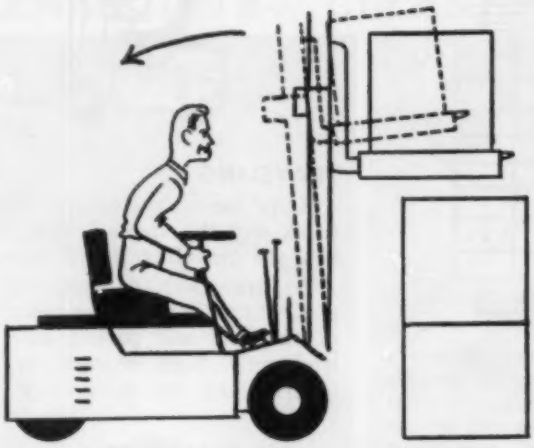
A. 13. The method is simple but time consuming. Successive light cuts will do much to eliminate the deeper cuting over soft areas and at the ends and edges of the plywood sheet. A heavy cut, starting with coarse sandpaper, encourages excess stock removal over the less dense areas.

The reasoning behind this cutting variability is that the felt cushions under the sandpaper on the sander rolls or pads, tend to push the abrasive cutting points into the softer areas, as well as at the ends and edges, all of which yield more readily than do the harder spots in the plywood surface.

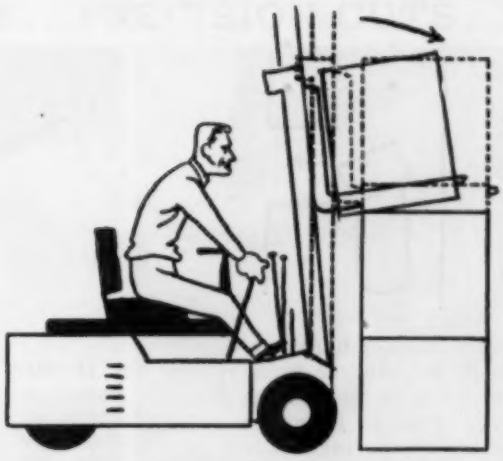
Q. 14. What allowance in thickness should be made for scraping, in contrast with normal sanding?

A. 14. The practical depth of cuts on scrapers ranges from .004" to .006", in contrast with the normal allowances in sanding of .015" on dense woods to .03" on low density species. Obviously this sanding range, between

(Continued on page 40)



BEFORE RAISING A LOAD tilt uprights back . . .



. . . **WHEN RELEASING LOAD** tilt uprights to vertical and back out of pallet.

How to Operate a Lift Truck

Pointers that will help beginners become experienced operators; and experienced operators to rate their ability as drivers.

Whether you already have or are considering purchasing lift-truck equipment, the instructions printed here, courtesy of the Hyster Co., will help you and your men become better operators. We suggest this article be clipped for ready reference.

STARTING

After starting a cold engine, close choke button as soon as possible. Excessive choking will cause unburned gasoline to leak past the pistons and dilute the lubricating oil.

In cold weather always allow engine oil and oil in hydraulic system to warm up and circulate freely before operation.

SHIFTING

Do not drive with your foot on the clutch. This causes loss of tensin on clutch springs, allows clutch to slip, causing excess wear and also is harmful to the throw-out bearing.

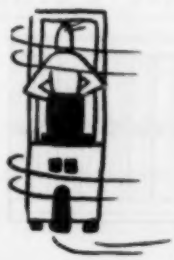
Learn to keep all shifting to a minimum; eliminate any unnecessary manipulations.

Always start in low gear. A smooth, gradual pickup is a credit to an operator. Careful, planned shifting requires less effort, saves time, minimizes breakdowns.

For low speed, accelerate engine slightly and engage clutch slowly so as to neither stall the engine or jerk the truck. As engine gains speed, declutch and move control lever through neutral to "high" position.

Shift to a lower gear before the engine begins to labor, as in pulling up an incline. Always shift to a lower gear before descending an incline that will require excessive use of the brakes. To make this shift, release clutch and shift to neutral; then reengage clutch and speed up engine sufficiently to permit shifting to a lower gear without clashing; then declutch quickly and shift to the lower gear.

To reverse the direction of travel, declutch, bring the truck to a complete stop and move control levers to proper position. Shift the transmission lever to correct position for desired direction of travel and reengage the clutch.



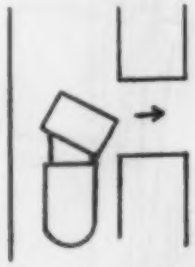
STEERING

Turns should be made smoothly and gradually, free and easy. Spotting loads requires extreme accuracy and sudden turns may cause loss of control and spilling the load.

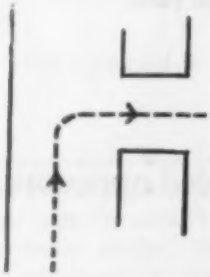
Remember that a loaded truck usually steers easier than an empty one. Some heavy-duty trucks have hydraulic steering, but the more commonly-used sizes steer harder unloaded in spite of the high steering ratio. Lift trucks can be steered from the rear wheels, thus the truck can be cramped much easier than conventional trucks.

Beginners usually try to turn

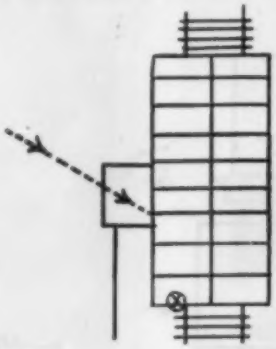
too sharply. When turning sharp corners, start from the inside corner rather than from the middle of the aisle.



In exceptionally narrow aisles, it is usually permissible to carry the load at an angle toward the direction you wish to swing in order to shorten the turning radius.



When turning across aisles, start the turn as close to the opposite stockpile as tail-swing will allow.



If edge of bridgeplate forms a bump or obstacle, enter freight car at an angle. Always remember that a lift truck is steered by the rear wheels and that you must allow for an exaggerated tail swing.

Lift trucks have a peculiarity known as "free turning." That is, once the turn is started, the truck has a tendency to turn sharper and sharper in a smaller and smaller circle. You must counteract this by turning the steering wheel the other way to slow down the sharpness of the turn. When traveling in reverse, the opposite holds true.

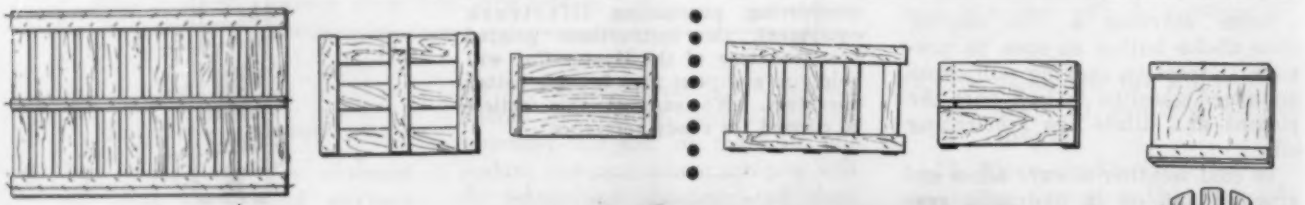
TRAVELING

Know the underclearance of your truck and the surface upon which you are traveling at all times.

To transport a load, tilt the uprights as far back as the nature of the load will permit and raise load only high enough to clear obstructions or to give a clear view.

When traveling unloaded, always keep the forks in a low position. Four inches off the ground is the usual practice. When operating a fork truck on an incline, back down steep ones.

Unusually large or heavy loads can be transported by two lift trucks operating together — one operating forward and the other backward in the same direction. This should only be attempted by experienced operators.



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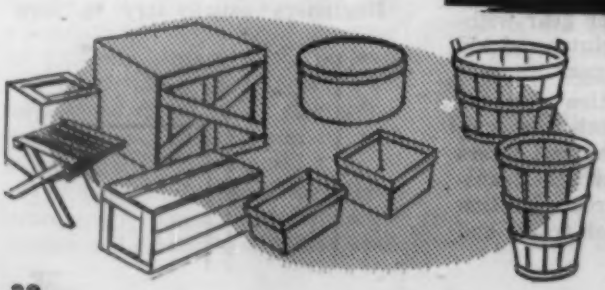

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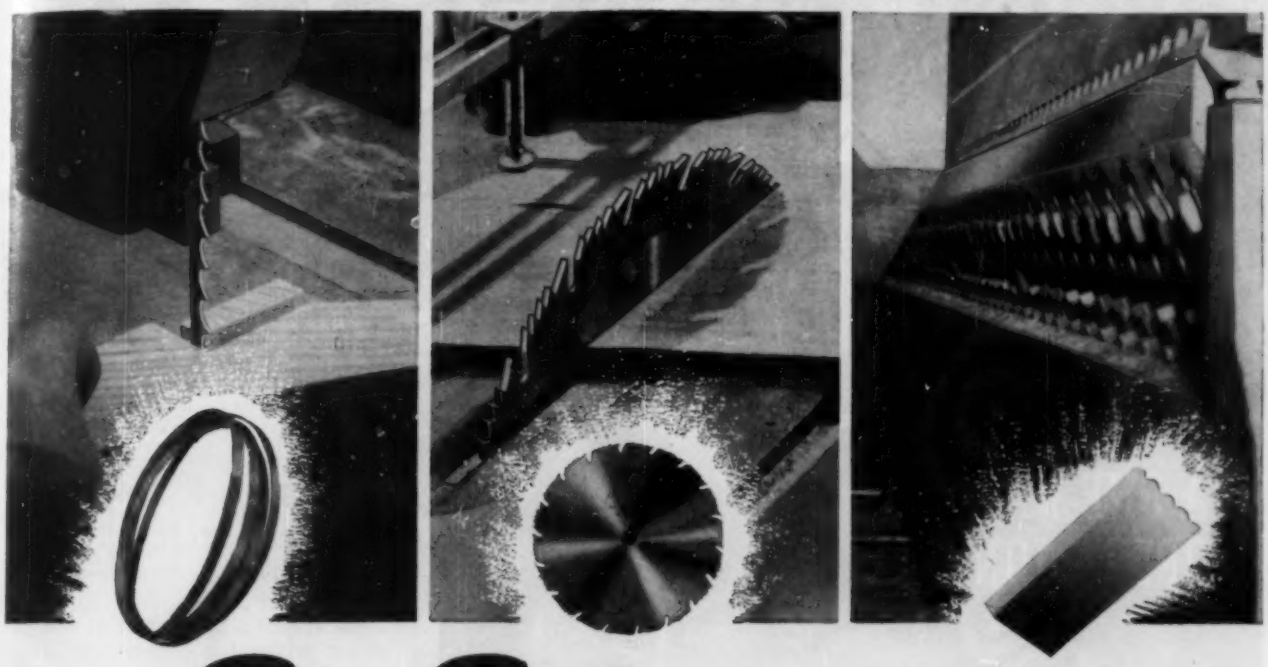

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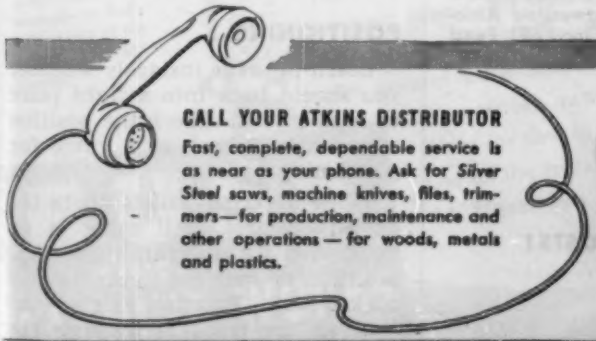

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High lift trucks should seldom be used to carry loads at greater distance than 300 feet. Tractors and trailers or platform trucks are designed for horizontal materials handling.

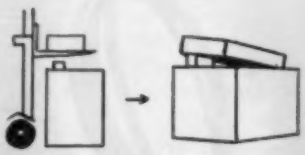
LOADING

Never, under any circumstances, attempt to operate the lift truck with a load that raises enough weight from the rear wheels to tip the truck or make steering uncertain. Any load that will do this is a dangerous overload.

Forks should be spaced in the pallet so that they are at an equal distance from the center stringers.

When picking up round objects, first tile the uprights so that the forks slide along the floor under the object to be lifted.

Drums, barrels and similar objects which have lips or ridges can be picked up by closing the forks against them before lifting if truck is equipped with "load grab."



To unload a large case or similar object without a pallet, first drive into position for stacking; then lower the load onto a thick piece of dunnage; next, withdraw the forks so that only the tips of the forks hold up the end of the load; withdraw the block, tilt uprights forward and back away.

Get under the loads squarely with both forks; using only one fork may twist, strain or permanently damage the truck.

POSITIONING

Learn to judge instantly whether you should back into a tight place or head into it. Check the position of the drive wheels as a guide for positioning pallet.

When lowering pallets apply the "down" control until pallet is on floor, then tilt uprights to vertical position so that the forks can be backed out. Practice raising the load as the truck is nearing the stack while coasting into position.

...that can be two-ways better!

DRUM SANDERS equipped with properly-selected Jewel Brand Bondex Garnet Fibre covers assure you of two important advantages: First, you get a cleaner, smoother finish on *all* your products. Second, you get maximum drum-sander productivity at a lower cost. Here's why.

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Get all the facts and you will agree that the 4-L Planer has no equal.

PLANER HINTS

MACHINE SQUEALS?

Pressure Bar is probably dragging. In Buss planers proper adjustment can be made with a flick of the MICRO-CENTRAL Control.

PRECISION BUSS PLANERS

BUSS
SINCE 1862
MACHINE WORKS

PLANER SPECIALISTS EXCLUSIVELY

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This reduces strain on engine and on the brakes.

Sometimes maneuvering into position is made easier by raising forks above load, completing the positioning, then backing off and lowering the forks.

Learn to avoid unnecessary maneuvering.

WRONG

RIGHT

To change directions in a narrow passage, always back into turn first. "Swing" of front of truck without load is shorter than tail-swing, thus with back to wall, you can change directions with less movement.

STOPPING

Always reduce speed gradually, as sudden stops are unnecessarily severe on the braking mechanism and a sharp halt is liable to cause the load to tilt forward. It is important to learn how to make safe emergency stops.

ONCE you've used the National Casein glue formula we tell you will do your job best — you, too, will agree with the customer quoted above.

We carry no magic wands . . . pull no rabbits out of hats — *never tell you that any one National Casein glue formula will do EVERY adhesive job.*

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STACKING

To tier or stack with the fork truck, drive the truck forward in the proper gear until the load arms are entirely under the load to be lifted. Make certain that the load is centered on the arms and that it is well seated against the face of the lifting carriage.

Move transmission lever to neutral and take foot off clutch. With toe of right foot on the brake pedal, accelerate the engine slightly with the heel of right foot on the gas pedal. Raise the load from the surface on which it is resting by pulling back on the tile lever. Allow tile lever to return to neutral when sufficient backward tilt of the uprights is obtained to allow safe handling of the load.

Raise load with lift mechanism. Avoid excessive back tilt when raising loads high in the air because this would place the load directly over your head.

Excessive engine speed will not increase the speed of the hoisting mechanism and will only result in excessive wear. A good operator will learn to judge by "feel" the proper speed.

When load reaches desired height, allow hoist lever to return to neutral and move truck forward to base of stack on which load is to be placed. At the beginning, it is best to lift load or release load with the tilt mechanism because the uprights are designed to raise the load slightly when tilted backward and lower it when tilted forward. However, an experienced operator can speed up an operation by using only the hoist lever.

When raising or lowering loads while standing still, do not leave truck in gear with clutch depressed; return shift to neutral and disengage clutch.

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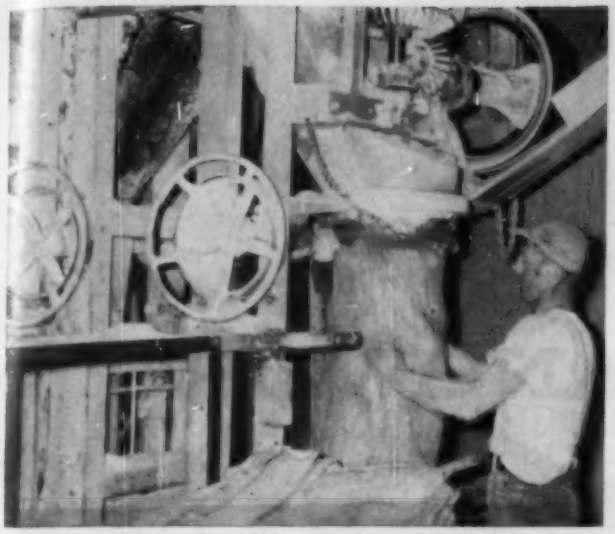
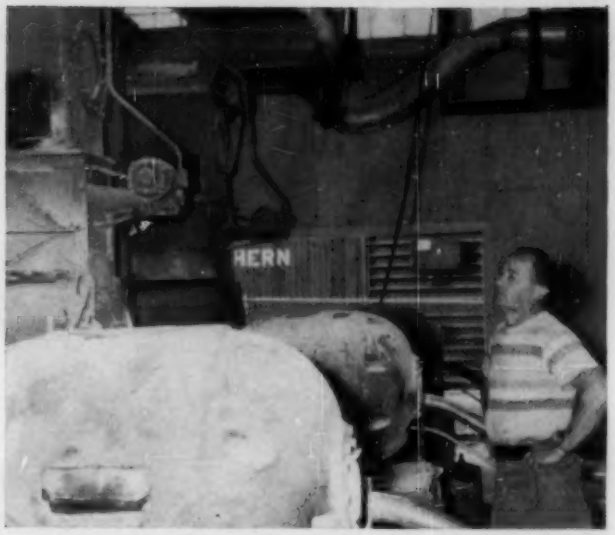


SACKING WOOD FLOUR at Specialty Wood Products Co. in 50 lb. bags.



WOOD FLOUR GRINDERS are driven by 150-h.p. electric motors.

Wood Products Manufacturers Find Use for Waste

Cooperative pooling of sawdust, shavings, edging and slabs open new markets for wastes.

Bob Forbes

Cooperation over the past ten years of woodproducts industries—sawmills, planing mills, match factories, sash and door plants and remanufacturing firms—in Spokane, Washington, has completely eliminated the sawmill refuse burner. This high level of wood utilization has created new jobs for Spokane citizens without the drain of a single board foot of timber from northern Rocky Mountain forests.

This program—in a community supporting some 50 wood-using factories in a 10-mile radius—might well be copied elsewhere in the country.

Notable example of this cooperative effort is the Lumber By-Products Company, a firm acting as clearing house in the city for wood leftovers suitable for fuel. The company was started in 1942 by four local lumber companies and now operates under its president, Robert Jones, a dozen storage places, strategically located, and a fleet of 22 trucks to place in storage during the summer months 300,000 cords per year of 11 species of sawdust, hog fuel, shavings, green slabs, resaw sawdust, edgings and planer blocks, representing the entire volume of wood waste from 30 area plants.

During the winter Lumber By-Products Company can then smooth out the flow of wood-waste fuel to retail dealers, who in turn service about 3000 home burner installations in the city, and also to meat-packing plants, hospitals, laundries, the Spokane central heating plant, a brick works, dairies, greenhouses and schools. Before this service was inaugurated, the wood fuel situation was apparently forgotten in the summer, only to become chaotic in winter.

Dependable Fuel Supply

Cost of wood fuel increased, but satisfaction was expressed by customers having a dependable all-year source of supply. As a result, wood waste for fuel has received a new impetus in Spokane. Many labor-saving devices have been engineered for commercial furnaces in which wood is the fuel. A publicity campaign got underway stressing wood's ease of handling, cleanliness and economy.

Lumber By-Products Company also supplies four Spokane firms with material for the manufacture of sweeping compounds.

President Jones says, "We will shortly be operating a chipping plant to make sulphate chips from planer blocks and clean, green wood for sale to the new pulp mill of Potlatch Forests, Inc., at Lewiston, Idaho."

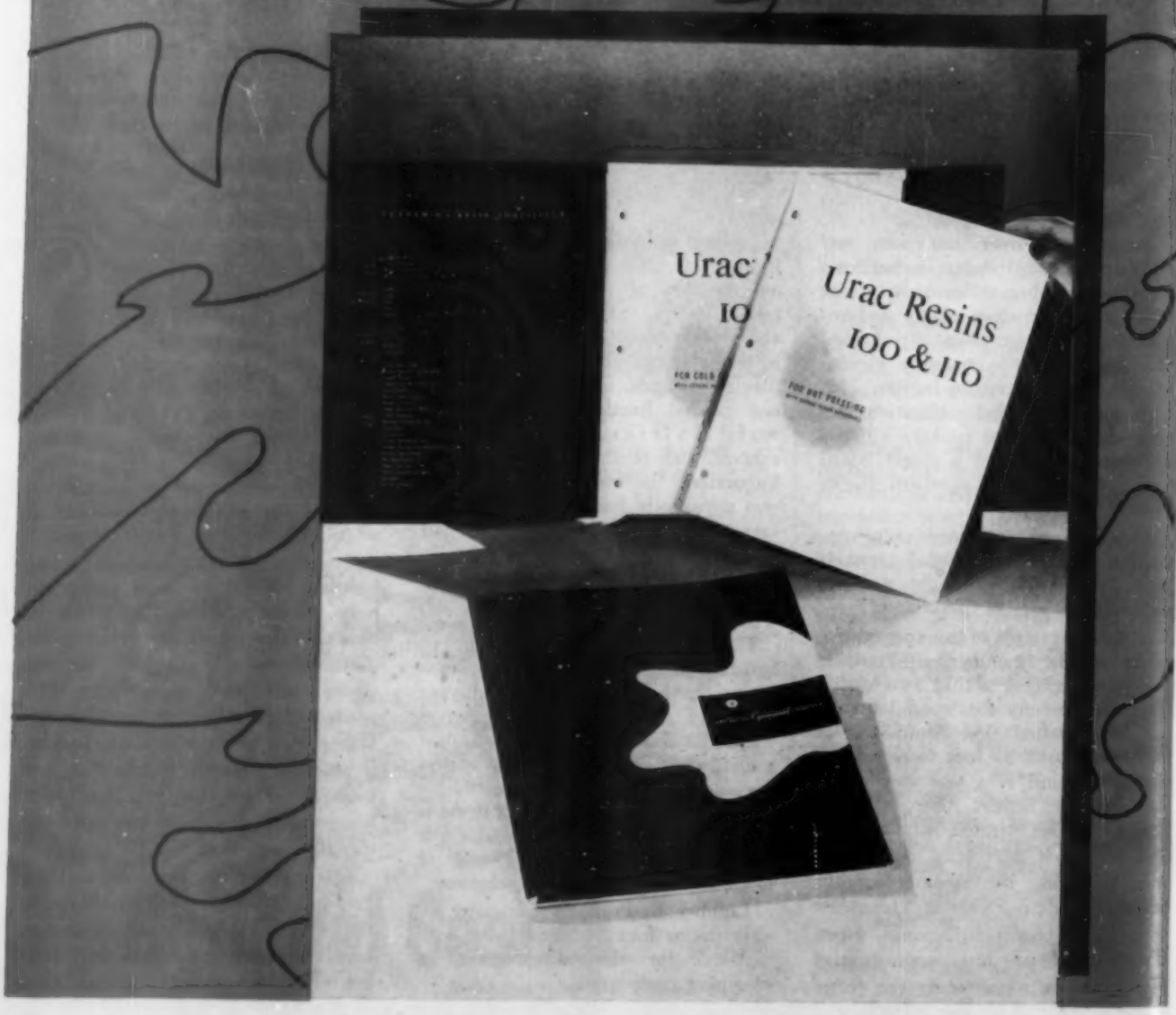
In 1945, a wood-flour plant was built in Spokane by Durez Plastics and Chemical Company, North Tonowanda, New York, and its management turned over to the by-products company, which also furnishes it with Idaho white pine shavings for the manufacture of 100-mesh wood flour. This plant produces 25 tons of product in a 24-hour day, seven days per week.

"We have had to go outside of Spokane for an adequate supply of white pine leftovers," states Jones.

Cyclones at the wood-flour mill, Specialty Wood Products Company, have recently allowed practice of closer utilization in its own operation. Dustex collectors on the cyclones are now recovering 1000 pounds of very fine, up to 400 mesh, flour per 24 hours, which was formerly wasted. A steady market has not been found for this very fine flour, however, so it is now blended with the 100-mesh flour.

Seven Pres-to-log briquette and one Pres-to-log stoker fuel machines in the city round out new developments, which explain why Spokanites don't get refuse burner smoke in their eyes.

you'll find ANSWERS



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1/64" and 1/32", must be varied according to the initial roughness of the plywood surfaces. Hence the scraper cut is distinctly economical in conserving the thickness of the plywood.

The residue from a scraper consists of thin and wide shavings, usually crinkled as they are pushed down in front of and below the cutting edge. There is no clogging of the pores of the veneer surface with wood dust and abrasive particles. The resulting clean, sharp surface is admirably adapted to subsequent assembly gluing.

Q. 15. Is there any good reason why scrapers are so little used in plywood factories in the United States?

A. 15. The answer depends on whether one is a somewhat unyielding follower of tradition and custom in plywood techniques, or is seeking better plywood techniques, eagerly and with an open mind. One of the principal obstacles to the wider use of scrapers is the finding and holding of a competent and experienced mechanic, who understands how to set-up, adjust and maintain a scraper for maximum output.

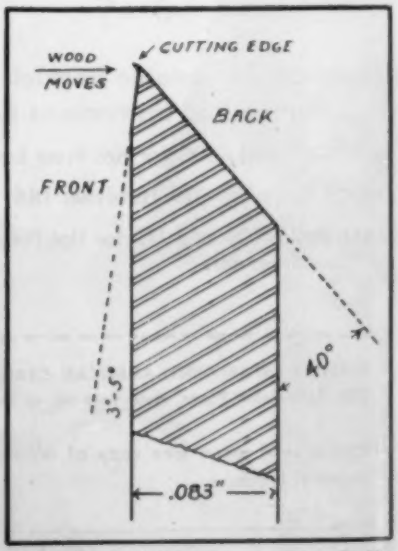
This obstacle is not lessened by the fact that relatively few scrapers are in use, therefore few operators are trained, and the demand for their services may be rather insignificant.

There is another side light on the situation; there is only one major producer of scraping machines in this country, with sanding machines as the principle competition. There are a dozen, or more, competent producers of efficient sanders, and there is vigorous competition between them for the sale of sanders. Which perhaps is another bit of evidence that "competition is the life of trade",–in the sander field!

It may be worth noting that scrapers are still made in this country, by a leading woodworking machinery manufacturer, but practically all of them are exported. They are well recognized and highly regarded as an important item of equipment in foreign plywod factories.

Q. 16. What is the "trick" to setting up and adjusting a scraping machine for plywood?

A. 16. Perhaps the best answer begins by considering the hand scraper, a prized tool of the custom cabinet maker, of the professional hardwood floor layer, and of competent wood artisans in all fields. The scraper knife is sharpened to an edge, much as a hand chisel is sharpened. The final operation, however, is "turning" this edge to make a slight "hook", with a roller or rod that is drawn



NOTICE HOOK on scraper knife, ready to cut. Figure 1.

INCREASE PRODUCTION as much as 100%

Lift Installed at	Production Increase
Double Surfacers	40% to 75%
Rip Saws	30% to 60%
Cut-Off Saws	20% to 50%
Matchers and Edgers	20% to 40%
Stacking Kiln Trucks	50% to 100%
Box Car Loading Dock	25% to 50%

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A glance at the above figures, FURNISHED BY USERS, proves how Leitelt Lumber Lifts increase production.

You can get these profitable increases in production and save the labor costs of one or two men with a Leitelt Lumber Lift in your plant or yard. Leitelt Lumber Lifts are built in a full range of capacities for handling loads from three to thirty tons easily and safely.

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A typical modern installation showing a Leitelt Lumber Lift feeding two cut-off saws. This is how one of the largest table manufacturing plants in the country has increased their production at the vital point where material starts to flow through the plant.

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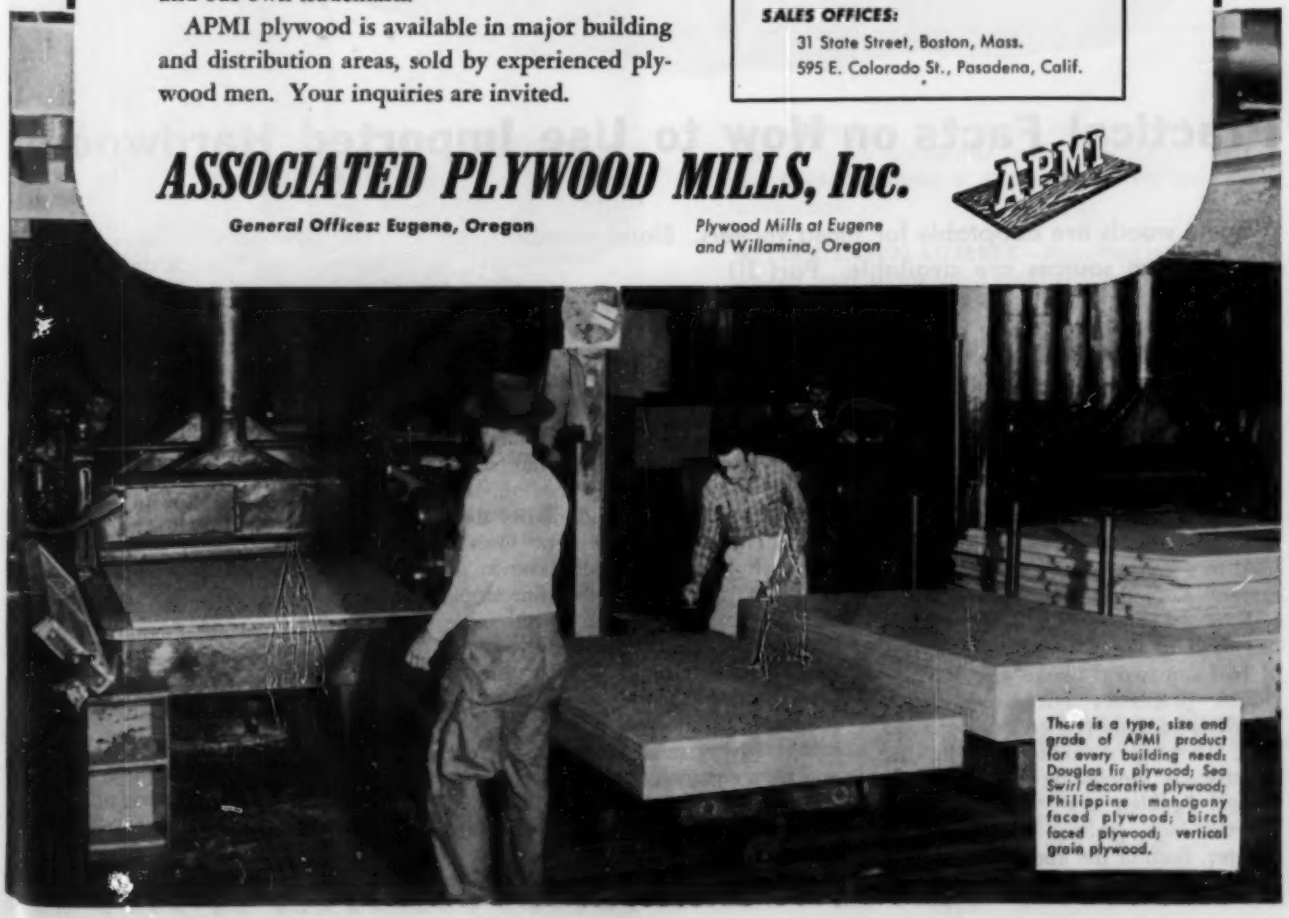
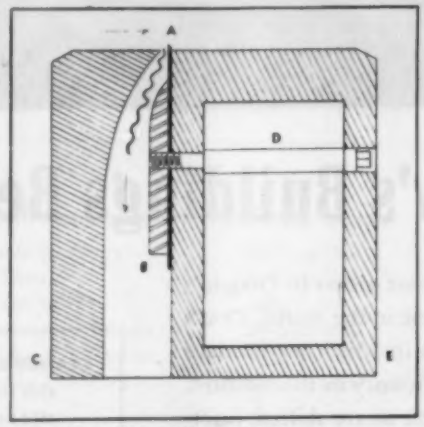


There is a type, size and grade of APMI product for every building need: Douglas fir plywood; Sea Swirl decorative plywood; Philippine mahogany faced plywood; birch faced plywood; vertical grain plywood.

across this edge with considerable pressure. This step is often called burnishing, and when drawn over a wood surface, scrapes off a thin shaving. This constitutes the essence of the "trick" in making the hand scraper do its work acceptably.

PROPERLY SHARPENED KNIFE is set with micrometer. **Figure 3.**

Turning now to the counterpart, the machine scraper and its technique. The proper cross section of a machine scraper knife, ready to cut, is shown in Fig. 1. Suitable equipment is now available for sharpening the scraper knife and turning its edge is indicated in Fig. 2, in which the head travels to the left carrying a wheel and a hardened steel finger, indicated by the black arrow head near the center of the photographer. The knife is first ground to a sharp edge, and while still remaining in the same clamp, the sharpened edge is traversed by the hardened steel finger to slightly bend the edge toward the front, as designated in Fig. 1. Several trips may be necessary for both grinding and turning, and either can be done separately. Accuracy and uniformity are obtained by keeping the knife rigidly clamped in the same position during both operations.



CROSS SECTION of knife shown in figure 3. **Figure 4.**

When the scraper knife has been properly sharpened and burnished it is set in the withdrawable head-stock with a micrometer indicator as shown in Fig. 3. The vertical indicator needle in the micrometer shows readings to fractions of one thousandth of an inch and insures uniform depth of cut.

A cross section of this knife stock (Fig. 3) is presented in Fig. 4, indicating the clamping bolts and the throat through which the shavings are discharged downwards.

The assembled scraping machine, with swinging bracket for withdrawing the knife head-stock, is illustrated in Fig. 5.

Q. 17. Is there any special requirement in the type of tool steel used in scraper knives?

A. 17. Scraper knives are made from a special alloy steel, heat treated to retain a turned edge without cracking or nicking. It requires ductility and toughness without too much sacrifice in ability to hold its turned edge for as long a time as the density of the wood will permit.

Scraper knives are customarily slot-

(continued on 74)

Practical Facts on How to Use Imported Hardwoods

Some woods are adaptable for sliced veneers. Blond woods from foreign sources are available. Part III

Robert W. Hess

Two fine woods from West Africa are proving useful in England as teak substitutes and perhaps could be used for sliced veneers in this country. One of these is Kokrodua, a newcomer to the trade; the other, Iroko, has been used to a limited extent in the United States. Kokrodua closely resembles teak, is of about the same density and has most of the admirable properties of that fine wood. Iroko also has excellent properties but is somewhat heavier and more golden in color than teak. To most manufacturers in this country, it would be classed as a natural "golden oak", with a three-quarter inch ribbon stripe on the quarter. Both of the above timbers are available in very large sizes. Another wood that can be finished to resemble oak, particularly the more golden shades, is the Freijo or Cordiawood from tropical America. Lighter in weight, softer, and somewhat more lustrous than the two preceding, this wood deserves greater popularity than is evidenced by its present limited usage. Roble Blanco, also known as Roble or Amapa, is another fine tropical American wood with considerable superficial resemblance to flat-cut white oak. Its light grayish brown color and attractive grain make it suitable for modern furniture. The comparatively small sizes of the trees and their squarish shape is not advantageous for veneering, but it should be possible to obtain quantities of flitches of ample size for economical flat cutting on a slicer.

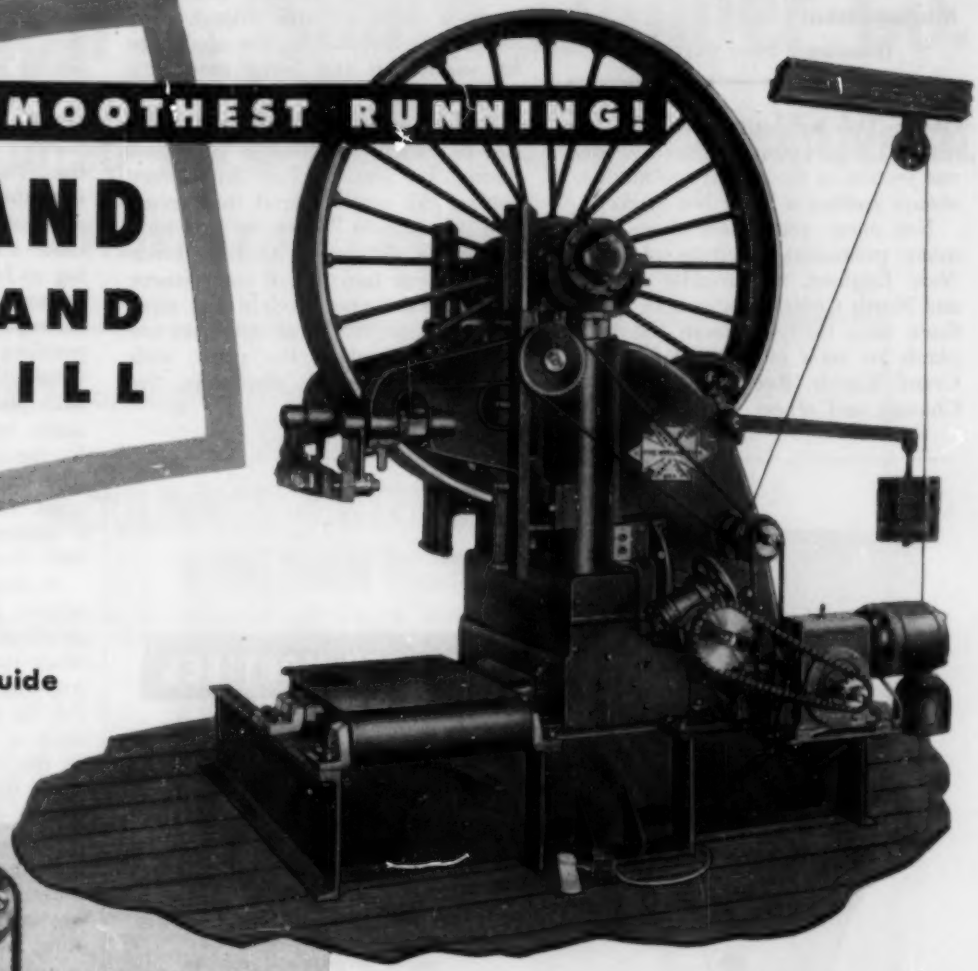
The European trade considers Okoume from West Africa to be one of the most useful of general purpose woods for plywood. It is pale brownish with a decided pinkish cast, rather soft, lustrous, and with little grain or figure. The Banak of Central America is a somewhat less attractive but no less useful wood. Its pale brown color and high surface luster is particularly noticeable on the typically slick-looking, rotary-cut surface. The Baboen of Surinam and the Ucuhuba of the Amazon are practically identical. Yellowish woods with similar properties and uses are Possumwood and Marupa. There are a number of Louros or Laurels that are at least as good. In Europe the Ilomba of West Africa has recently become popular as a general purpose plywood material, as has the whitish Melawis of Malaya.

The search for blond woods has introduced many whitish woods to the

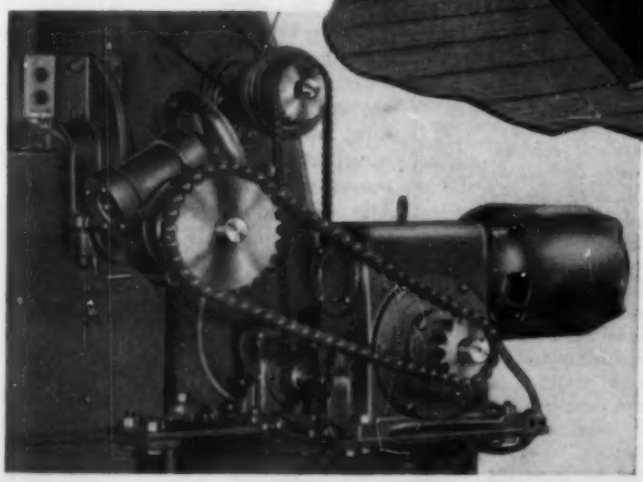
(continued on page 65)

SMOOTHEST RUNNING!

WHELAND 6′ BAND MILL



Now available with motorized top saw guide and top wheel lift.



Optional equipment on Wheland 6′ Band Mill now includes motorized top saw guide, controlled by a reversible foot switch which can be located at any convenient position for either the sawyer or offbearer; also a motorized wheel lift for raising and lowering the top wheel, controlled by a two-way push button switch which is located on the offbearer's side of the main housing.

See a Wheland 6′ Band Mill in action and find out why so many lumbermen agree that it's the best in the field. Wheland 6′ Band Mill offers you every advantage:

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LESS KERF—This Band Mill saves up to 16% more good lumber from each log you saw as compared with circular sawn lumber.

FASTER PRODUCTION—This band mill cuts lumber faster than any other. Extra quality construction gives you faster production day after day. For 12" or 13" wide saws.

Wheland also builds band mills in 54" and 8′ sizes with all auxiliary equipment to match.

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Management

(continued from page 23)

ciency. This competition for labor has resulted in a continual migration from one section of the country to another, always seeking a low labor market.

Not many years ago, there were many prominent furniture plants in New England, the middle Atlantic and North Central States and, where there were thirty or more successful plants in such cities as Jamestown, Grand Rapids, Rockford, Evansville, Chicago and others, the number has diminished to a startling few, and many of these are still struggling to survive. Unfortunately, the challenge for survival is not being met with vigor.

Let us examine briefly, the manner in which furniture is processed through the average plant. By its very nature, the raw material iteslf must pass through a series of machine operations to obtain its final form. Many plants have a full complement of machines, some modern but most of them obsolete. These machines are installed throughout the plant, with one or two operators controlling the output of each one.

Ordinarily, as the stock leaves one machine, it is piled on trucks or skids, then moved to any vacant space which may be available, and there it remains, often for a protracted period of time, until it is moved to another machine for the next operation. There is no coordination of timing, the operators on one machine are not controlled by the speed of those attending the machines preceding or following. A multitude of bottle-necks is developed. Frequently an attempt is made to overcome the problem by installing additional machinery, yet bottle-necks continue to exist and the problem is made more acute by the inability to hire labor for the additional equipment installed. The entire organization is in a constant state of frustration and there is a continuous turnover of superintendents, foremen, and factory help.

It is apparent that machinery alone is not the complete answer to the problem. Scientific progression of stock through the plant is equally as important, if not more so, than having the plant crowded with machines, each a separate unit, not correlated to the others, and each an entity in itself with its operators in full control of its output.

If a careful check were made of all the stock in process, lying dormant around each machine in almost any plant, the figures would be startling. Added to this is the cost of transporting the unfinished stock and the value of the floor space occupied. The elapsed interval between the time the lumber is brought into the plant and the time the finished product is ready for shipment, is much too long. Furthermore, the reduction in output, loss of time and waste of labor are much too costly.

In most plants the preliminary process is much the same. To begin with, all the lumber used in the production of furniture should be processed perfectly flat and rough dimensioned properly to insure accurate machining for the reduction of assembly and finishing costs. This is a basic principle every plant should follow, otherwise, costs will rise, production will be slowed down and the product will be inferior. The steps to accomplish this most efficiently, consist of the following:

A. Lumber storage to Lumber Lift and Cut-Off Saws.
B. Cut-Off Saws to Facer for removing twist or warp.
C. Single surfacing to reduce lumber to uniform thickness, essential for accurate ripping, edge gluing, perfect moulding, tenoning, etc.

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All of the Modern Machinery from Pendosa Pine Co. of Elgin, Oregon and several of the key personnel have been moved to Anderson, assuring the same high quality and precision manufacturing

GLUED PANELS AND CUT STOCK

Gillespie Electronic — Plycor & Clamp Carrier Glueing Equipment makes it possible to furnish unexcelled panels — Specializing in Furniture Parts — Drawing Boards — Luggage — etc. Shaping to pattern on Onsrud Automatic Shaper and sanding to a smooth finish on Yates Sander. Turning lathe work performed on Mattison Wood Lathe.

BOX FACTORY

High Quality Shook, both Calif. Fruit & Vegetable
And Industrial, is being Produced in the Factory

Our Own Large Timber Supply makes us a Dependable Source of Supply

The Ralph L. SMITH Lumber Company

WPA — Western Pine Association

ANDERSON, CALIFORNIA

GENERAL SALES OFFICE AT THE MILL

D. Removal of the rough edges with a continuous Feed Glue Jointer to reduce approximately 50 per cent of the labor involved in performing this operation on Rip Saws and to conserve lumber.

E. Chain Feed Rip Saws, for removal of defects, cutting glue joints and processing stock to proper width for moulder or other machine operations.

F. Gluing: If the daily production exceeds 2500 square feet of glued up stock, the use of an Edge Bonding Press will result in an appreciable reduction in cost. For moderate production, a revolving Glue Clamp Carrier will suffice.

G. Double Cabinet Surfacing for reducing stock, either solid or glued, to the required finished thickness.

Basically, the above sequence is the procedure which should be followed in the manufacture of all types of furniture, glued dimension or core stock. While many plants have adopted this procedure, most of them are not aware of the advantages to be gained by making this entire progression automatic, by means of a series of traveling belt Conveyors transporting the stock at a rapid, continuous rate of flow from the stock saws through the intermediate machines to the rip saws, with comparatively few operators. By this method, it is necessary only to employ fast and efficient stock sawyers who should be able to create a sufficient flow of material to keep all the machines in the line, functioning at top speed. By this method, two stock sawyers and approximately one-half the usual number of operators and offbearers can produce from 12,000 to 20,000 feet of rough dimension and glued-up stock in an average working day.

The succeeding operation in the plant consists of final machining. Here the ordinary complement of machines consist of moulders, band saws, shapers, trim saws, tenoners, boring machines, and finally sanders of a variety of types, each designed primarily for one specific operation. The development of machines for multiple operations has been slow, due primarily to the reluctance of woodworking manufacturers to accept them. Unfortunately, most of those in the furniture industry regard the purchase of machinery as an expense rather than an investment. Reserves for depreciation are not being used for the replacement of equipment already depreciated, and the greatest deterrent is the tendency to adhere to the old methods of production rather than to devise ways and means to adopt new practices which may convert losses into profits.

At present there are available many new types of machines by which a single operator can combine a number of operations ordinarily performed by a group of machines with one or more operators at each one. Such machines reduce costs and provide a greater degree of accuracy, yet they are possessed by comparatively few. In most instances, they were purchased as a result of considerable expenditure of time, effort and pressure on the part of some persistent machinery salesman and, when the furniture industry becomes receptive to equipment of this type, machinery manufacturers certainly will be encouraged to develop more of such equipment.

The primary objective to be achieved is a reduction of labor costs by more scientific progression of material through the plant, a uniform and more rapid rate of flow of stock through all departments, a reduction in the amount of unfinished material in process, the use and proper maintenance of modern machinery, and the reduction of waste by the selection and economical use of lumber and other raw materials.

See how the new Thermatron
High Frequency Generator
with Automatic Power Control
Speeds up Edge Bonding!
Thermatron
HIGH FREQUENCY GENERATORS AND EQUIPMENT
In the installation shown, the new 20KW THERMATRON Generator is used in conjunction with a Weldon press, which is completely shielded and guaranteed to meet FCC requirements. A new automatic tuning device delivers to the load the maximum efficiency of the generator

REDUCES PRODUCTION TIME BY 33⅓% AT SENSENICH CORPORATION PLANT!

They agree at the Sensenich Corporation, Lancaster, Pa., that their new 20 KW THERMATRON and batch-type press installation is really the last word for high production edge bonding. THERMATRON'S large power capacity and automatic controls quickly proved themselves in accommodating the wide variety of loads run at the Sensenich plant.

This modern high frequency generator—product of years of Radio Receptor research and development—has indicator lights and meter readings to tell at a glance the exact status of the material in work. Power and tuning automatically adjust to load conditions during the entire cycle . . . and of course all the latest protective devices are included.

THERMATRON engineers are ready to make suggestions regarding your wood-gluing problems . . . Write us now, and request our new brochure No. W-11.

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RADIO RECEPTOR COMPANY, Inc.
Since 1922 in Radio and Electronics
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RCI, pioneer in synthetic resins, offers specific adhesives to solve your specific problems in plywood and furniture production. Whether you need a urea formaldehyde, phenolic, resorcinol, soybean or casein glue, get in touch with REICHHOLD. Plants around the world, plus research specialists and laboratories that work continuously on your problems, make RCI your best choice for adhesives.

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Plants: Detroit, Mich. · Brooklyn, N.Y. · Elizabeth, N.J. · South San Francisco and Azusa, Calif. · Tuscaloosa, Alabama · Seattle, Wash. · Chicago, Illinois · Charlotte, N.C. · Jacksonville, Florida · Liverpool, England · Paris, France · Sydney, Australia · Hamburg, Germany · Naples, Italy · East London, South Africa · Barcelona, Spain · Vorarlberg, Austria · Buenos Aires, Argentina · São Paulo, Brazil · Sassenheim and Koedijkerm, Holland · Toronto, Port Maitland, and Montreal, Canada · Oslo, Iceland · Gothenburg, Sweden · Zurich, Switzerland

5th Annual Wood Award Announced

R. W. Wellwood, of the University of British Columbia, and Chairman of the FPRS Subject Matter Committee on Education, in cooperation with R. M. McFarland, Managing Director of WOOD AND WOOD PRODUCTS, have recently completed details of the Fifth Annual "Wood and Wood Products Award" competition.

The purpose of the award, first made in 1947 and continued in 1948, 1949 and 1950, is to encourage students in the direction of making fundamental or practical contributions to the field of forest products, and to emphasize to American Industry the need for supporting and strengthening student curricula in forest products research, development, production, utilization and marketing.

The Award was not made in 1951 or 1952 due to insufficient entries, and development of a new program for making the Award. This year the rules committee, of which R. W. Wellwood is Chairman, has undertaken modifications in the conditions of the Award which it feels will greatly stimulate both interest and entries.

Past winners of the Award have included many former students who have since established important places in the field of forest products or in education . . . These include:

A complete program including posters, newspaper, magazine and direct-mailings, in connection with publicising the Award, is being prepared by the Forest Products Research Society Executive Office at Madison, Wis.

Rules for 5th Annual "Wood and Wood Products Award"

1. The fifth annual *Wood and Wood Products Award* competition is open to all students in attendance for at least one quarter or semester at any North American university or college at any time during the period between May 1, 1952 and April 30, 1953.

2. Two cash awards and certificates will be given for the work considered best in the opinion of the judging staff. The judges are to be selected by the Forest Products Research Society Committee on Education.

   $350 cash and Certificate of Merit—for the outstanding Graduate Student Research paper.

   $150 cash and Certificate—for the outstanding Undergraduate Student paper.

3. To be eligible for the larger award the paper must be based upon research work completed in school subsequent to May 1, 1952. Theses may be submitted provided they are accompanied by an abstract of 500 or less words.

4. To be eligible for the smaller award the paper must be based upon undergraduate research completed in school subsequent to May 1, 1952. Or it may be an essay treating of a specific aspect of the field of forest products that is of current vital concern.

5. Tentative titles must be submitted by March 1, 1953 to the Executive Secretary, Forest Products Research Society.

6. All entries should be submitted to the respective Deans or Heads of Departments, who will in turn submit them by May 10, 1953 to the Executive Secretary, Forest Products Research Society, P. O. Box 2010 University Station, Madison 5, Wisconsin. The Secretary will transmit entries promptly to the Judging Committee.

7. A short autobiography should accompany the paper.

8. Papers should be written in conformance with the FPRS style sheet, copies of which are attached. They should consist of a minimum of 2,000 words. Judges will rate the essays on the basis of subjects, skill of treatment, conclusions, and applicability to the forest products industry.

9. A short news-type abstract should accompany, but not be an integral part of, the paper.

10. In the event that a total number of less than 5 titles are received prior to or on March 1, 1953, no awards will be made. The Committee of Judges also reserves the right to cancel the Awards in the event that less than 4 final entries are submitted by May 10, 1953.

11. The winner of the $350 award will receive his award and present his paper at the Annual Meeting of the Forest Products Research Society. The winner of the $150 award will also receive his award at this time if it is possible for him to attend.

12. Both papers will be a part of the published proceedings of the Forest Products Research Society.

FPRS Upper Mississippi Valley Section To Meet At Wausau, Wisconsin December 8 and 9

The Upper Mississippi Valley Section of the Forest Products Research Society will meet at Wausau, Wis. Dec. 8 and 9 with more than 100 wood industries men, both members and non-members, from Northern Wisconsin, Upper Michigan and Minnesota expected to attend.

At a meeting of the Section's executive committee held at Wausau recently at which plans for the two-day affair were made, it was announced that D. C. Everest, chairman of the board of the Marathon Corp.,

D. C. EVEREST will address Wausau meeting Dec. 9.

will be the principal speaker at the luncheon following the technical program Dec. 9. The subject of Everest's talk will be "Research in Forest Products".

This is the first meeting of the Upper Mississippi Valley Section to be held in North Central Wisconsin.

Diversified Wood Utilization to Be Stressed

The program is designed to meet the needs of the cross section of the wood industries in the area: pulp, veneer and plywood, millwork, lumber and others.

Each of the subjects to be presented and discussed will have a direct bearing at least in one or more of these industries. This is the goal of the Society whose purpose is to bring together men of various segments of the wood industries so that a broader and knowledge of the overall industry may be acquired and applied.

An example of this is the diversi-

Step on it for more production

PORTER 43-20J Automatic Hydracut Saw

Foot Pedal Control Ends Operator Fatigue

The Porter 43-20J Automatic Hydracut Saw saves hours of labor . . . enables any cutting room operator, regardless of age, to cut more lumber per day by eliminating tiring hand operation. Operator simply positions the lumber against the adjustable cut-off stops . . . and presses the electrically operated foot control. The saw blade, mounted on a hydraulically operated carriage, *automatically* moves forward to make the cut and *automatically* returns. Fatigue from manual "push-pull" operation is gone.

Stroke length is quickly adjusted by a convenient lever. Cutting speeds range from 0 to 45 cuts per minute.

The new Porter Bulletin 43-20J-1 fully explains the Automatic Hydracut Saw. Send for your copy today.

Dividend Designed by **PORTER**

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fied pulp mill which includes in its operation many facets from wood harvesting to pulp manufacturing, chemical utilization of by-products and manufacturing of fiber materials such as insulation and hardboards.

The secondary purpose of the meeting is to acquaint industries in the Wausau area with the work of the Society on both a regional and national basis. A highlight of the meeting will be the "Open house" which various Wausau industries will provide. Those attending will have the opportunity to visit the widely publicised new research laboratory of the Marathon Corp. in Rothschild, witness the operations of the Curtis Companies, the D. J. Murray Manufacturing Co., and others, including packaging and wood handling at a paper mill.

C. L. Durkee, sales manager of the Murray firm, has been appointed entertainment chairman and will provide several entertaining wood industries movies in connection with the traditional Paul Bunyan Hour for the welcoming of visitors at a party to be held at the Hotel Wausau Dec. 8.

Presiding over program planning is William A. Kluender, forestry and agricultural agent for the North Western Railway System, St. Paul. Thure C. Duvall, Wood Conservation Co., Cloquet, Minn., is chairman of the Section.

Program

Evening, December 8—Welcoming party—Motion pictures on wood handling and other subjects.

December 9—9:00 A.M.—Section business meeting—Election of officers. 9:30 A.M.—TECHNICAL SESSION

"Lumber and log grade yields from second growth hardwoods" by Carl Arbogast, Lake states Forest Experiment Station, St. Paul.

"Progress report on small vacuum treating plant" by Dr. Frank Kaufert or John Nietzel, University of Minnesota, St. Paul, Minn.

"Wood storage problems in the paper industry" by Henry C. Crandall, Technical Director, Mosinee Paper Mills, Mosinee, Wis.

"Factors Affecting Veneer Drying Rates" by H. O. Fleischer, For. Prod. Laboratory, Madison.

12:30 P.M.—Official Luncheon—Speaker, Mr. D. C. Everest of the Marathon Paper Corporation (Chairman of the Board), Wausau, Wisconsin.

Following the luncheon there will be plant visits to the research Laboratory of the Marathon Corporation and other leading companies in and around Wausau.

Carolinas–Chesapeake Section Elects New Officers

At a very successful meeting held at the new School of Forestry, North Carolina State College, Raleigh, N. C., November 7, the out going FPRS administration turned over the reins to a new slate of officers for the coming year.

Outgoing officers included Chairman, M. S. Hudson, Taylor-Colquitt Co., and Secretary, E. S. "Scotty" Harrar, who has given the Section three consecutive years of service at that post.

New officers include Chairman, R. E. Palmer, Henry County Plywood Co., Ridgeway, Va.; Vice Chairman, Jay M. Stevens, Navy Dept., Washington, D. C. and Secretary, J. S. Bethel, N. C. State College. New trustees added include, E. S. Harrar, Duke University, and G. V. Chapman, Drexel Furniture Co., Drexel, N. C.

Over 100 persons attending the technical sessions heard and participated in discussion on a number of papers slanted toward the South Eastern Wood economy, from chemical utilization of lower grade species to a round-up of European production

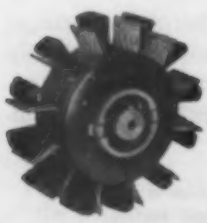
For high speed, low cost sanding

on any contour and hard-to-reach surface — use

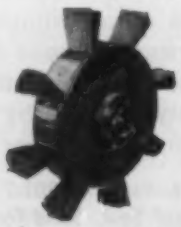
SAND-O-FLEX

No matter how intricate the shape, Sand-O-Flex can sand it! As the wheel spins, flexible brushes force the garnet cloth down into crevices and over irregular shapes. It immediately adjusts itself to any conceivable contour. It cannot gouge, mar or scorch surfaces. Use it for coarse and finish sanding, portable or for heavy-duty production line jobs. Sand-O-Flex handles jobs no other sander can touch.

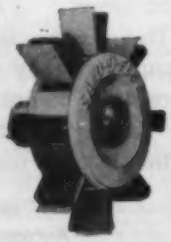
Sand-O-Flex requires no expensive setups. Simply mount it to a motor shaft, or any rotating spindle on your present power tools. No skill required, inexperienced help can produce beautiful finishes in a minimum of time. It carries its own supply of abrasive. Loads and feeds out by hand—no monkeying around with looping, glueing and cutting abrasive to fit. Sand-O-Flex abrasive refill cartridges are specially prepared in many grits, from very coarse to extra fine. Scored abrasive refills are supplied for operations requiring greater flexibility. Write for prices and catalog.



MODEL 650C for heavy industrial use. Casing dia. 6½"; overall dia. 10¾"; weight 10½ lbs.; 12 brushes using 2½" wide abrasive cartridge; fits ⅝" shaft or adapters furnished to fit any size shaft. Available in right and left hand models.



MODEL 550A for production-line duty. Casing dia. 5½", overall dia. 8", weight 2⅝ lbs.; 8 brushes using 1" wide abrasive cartridge; fits either ½" or ⅝" shaft or adapters supplied. This unit is shown above, sanding saw handles.



MODEL 350R for portable or stationary use. Fasten to a portable electric drill or flexible shaft for large pieces and assemblies. Casing dia. 3½"; overall dia. 5½"; weight 1⅜ lbs. (loaded); 8 brushes using 1" wide abrasive cartridge; fits either ½" or ⅝" shaft, or adapters supplied to fit.

MERIT PRODUCTS, INC. 4023 Irving Place, Culver City, Calif.

they like the MATTISON MOULDER at Tomlinson . . . . .

Since 1900 Furniture by Tomlinson has been a quality name from coast to coast. The finest equipment for all phases of production are a *must* . . . naturally they like the Mattison Moulder at Tomlinson.

The Tomlinson operator likes it because it is as easy to set-up, feeds so easy and produces so few rejects . . .

The Tomlinson foreman likes it because he gets production when he wants it and as he wants it—*good* . . .

The Tomlinson superintendent likes it because it produces high quality quickly and easily and his production schedules are consistently met . . .

The Tomlinson cost department likes it because it produces high quality work at low cost . . .

The Tomlinson management likes it because work comes through uniformly accurate, and proper fitting —a necessity in producing high quality bedroom, living room and dining room furniture by Tomlinson.

Yes— makers of Furniture by Tomlinson like the Mattison Moulder — and *you* will like it, too!

MATTISON MACHINE WORKS

ROCKFORD · ILLINOIS

practices in plywood, composition board and furniture.

Wayne Lewis, Engineer, U. S. Forest Products Laboratory, and Charles M. Kreider, Elmendorf Research, reviewed the economic aspects of the hardboard industry in the U. S., and developments in chip core.

Evening Banquet Huge Success

Over twenty ladies were present during the meeting, and were entertained through arrangements by Mrs. R. M. Carter, Raleigh, wife of the past national FPRS President.

Just about everybody showed up for the customary "Knothole" club and banquet. A highlight of the evening was the multitude of door prizes and favors given each and every person. These ranged from fine period desks, chairs and occasional pieces to a table saw, and rolling pins. Donars included, Borden Co., Geo. C. Brown Co., Carborundum Co.; Champion Paper; Commercial carving; Delta Tool, Div. Rockwell Mfg.; Draper Corp.; Lane Co.; Lilly Co.; Moore Dry Kiln Co.; Reichhold Chemical Co.; Reynolds Tobacco; Southern Resin Glue; Sprayon Products Co.; Thomasville Chair Co., and Williams Furniture Co.

SLAT BEARERS *attached* with NEW SPEED at LOWER COST.

GLUE and AUTO-NAILER* DO A PERFECT JOB..FASTER.

Drexel Furniture Company, Drexel, N. C., attach their bed rail slat bearers with glue and Auto-Nailer.

The Auto-Nailer is unequaled for attaching tight-jointed bed rail slat bearers . . . eliminates boring and screwing or glue clamps. AUTO-NAILER'S 1,000-POUND-SQUEEZE GLUE-NAILING LETS YOU CONTINUE PRODUCTION WHILE THE GLUE SETS.

Auto-Nailer makes, drives and countersinks 3-NAILS-A-SECOND. It is also great for such glue-nail jobs as banding tops and attaching cleats to panels . . . invisibly.

Let us show you what Auto-Nailer will do.

LIKE TO SEE SOME SAMPLES? Send us specimens of your work. We'll be happy to demonstrate Auto-Nailer's virtue and versatility, no obligation.

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Williams Furniture Co., Sumter.

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Fourth Annual Deep South Section Meeting Held Nov. 7, 8 at Baton Rouge

Pleasant Hall, Louisiana State University, Baton Rouge, Louisiana was the scene of the annual FPRS deep south meeting of the year. This area will also be host to the FPRS National Meeting to be held at Memphis, Tenn. next June 15, 16, and 17.

The meeting was under the chairmanship of Richard F. West, of L.S.U. In addition, FPRS National President, Kenneth G. Chesley of Crossett, Arkansas and Regional Board Member, Moss B. Christian, Talluluh, La., were present.

The following papers were presented. All will be considered for publication in the *Journal of FPRS*, February and later issues.

Technical Program

"Laminated Ship Construction Practices," Ray Samuel, Higgins, Inc., New Orleans, La.

"Lamination of Small Timbers and Dimension Lumber from Southern Yellow Pine," Robert C. Musslewhite, Jr., Southern Pine Lumber Company, Diboll, Texas.

"Air Force Packaging Problems," Lt. Col. R. W. Johnson, Air Material Command, Wright-Patterson Air Force Base, Ohio.

"Problems Relating to the Home Treatment of Fence Posts," William C. Hopkins, Mississippi State College, State College, Mississippi.

"Informal Discussion of Service Tests Being Made at the Louisiana State University School of Forestry Fence Post Farm," Martin B. Applequist, Assistant Professor of Forestry, Louisiana State University, Baton Rouge, La.

"A New Round Log Gang for Small Mills," Paul R. Kramer, Associate Wood Utilization Technologist, Forest Products Department, Texas Forest Service, Lufkin, Texas.

Quality Control Symposium comprising:

"Quality Control of Log Making," Roswell D. Carpenter, General Manager, Cunningham Machinery Corp., Shreveport, La.

"Quality Control in Veneer and Plywood Manufacture," Charles Latimer, Industrial Engineer, Nickey Brothers, Inc., Memphis, Tenn.

"Quality Control at the Sawmill," William N. Darwin, Forest Utilization Section, Division of Forestry Relations, Tennessee Valley Authority, Norris, Tenn.

GREENLEE NO. 180-B SHAPER IN OPERATION
AT IGLOO CABINET CO., CHICAGO, ILLINOIS

ALL-ROUND UNIT FOR HIGH-SPEED PRECISION SHAPING

... *Greenlee 180-B Motor Driven Shaper*

Here's the *double-spindle* Shaper that you find speeding production in so many leading woodworking plants today.

Its size, spindle spacing, and design for extremely high spindle speeds, makes the GREENLEE ideal for high output of light or medium-heavy work. And its belted-motor-driven feature eliminates need for a separate frequency changer.

Since the success of any shaper depends mainly on its spindles, all GREENLEE Shapers have spindles that are designed for maximum strength and rigidity. Of alloy steel, scientifically heat-treated, they are capable of withstanding hard shocks and stresses and still maintain their original fine balance. Equipped with precision ball-bearings, they operate at high speed with maximum smoothness.

Rugged frame construction, proper table design, highest quality materials and fine craftsmanship throughout, all combine with the other many features to make this an outstanding machine of excellent reputation.

For accurate, high-speed shaping and long-time, trouble-free service, investigate the GREENLEE No. 180-B Double-Spindle Shaper. Write today for complete specifications . . . ask for Bulletin No. 180-B.

Greenlee Bros. & Co., 1932 Twentieth Ave., Rockford, Illinois.

MACHINERY & TOOLS
GREENLEE

GREENLEE WOODWORKING MACHINERY: MORTISERS · BORERS · SAWS · TENONERS · PLANERS · SHAPERS · MORTISING & BORING TOOLS

Markets

These prices are estimates made available by Mr. George Land, publisher of the *Hardwood Market Report*, and reflect prices as indicated in his copyrighted issue of November 1, 1952. Mr. Land's complete report is available weekly; those who want the entire list should contact him c/o Box 5716, Memphis 4, Tenn.

Note: For your convenience each price change is marked by an asterisk (*).

SOUTHERN HARDWOODS

F.O.B. mills—Texas & Louisiana area—estimate of present FOB Texas & Louisiana mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade on hand-sawn Southern Hardwoods in carload quantities, random widths & lengths, rough air dried & graded in accordance with NHLA rules on inspection. Prices in dollars per M', on straight cars of upper bracket grades premiums are frequently being paid.

ASH—FIRM TEXTURE

	FAS	No. 1C	No. 2C
4/4-in.	155	110	62
6/4-in.	170	120	67
8/4-in.	180	140	70

BASSWOOD

4/4-in.	160	125	80
6/4-in.	170	135	87
8/4-in.	180	145	90

BEECH

4/4-in.	125	100	55
6/4-in.	140	110	60
8/4-in.	167	127	72

CHERRY

Same as Appalachian

RED GUM—PLAIN

	FAS	No. 1C	No. 2C
4/4-in.	200	150	70
6/4-in.	230	170	75

RED GUM—QUARTERED

4/4-in.	220	165	75
6/4-in.	250	190	90
8/4-in.	260	200	95

SAP GUM—PLAIN

4/4-in.	105	85	42*
6/4-in.	122	102	45
8/4-in.	160	140	

HACKBERRY

4/4-in.	110	90	60
6/4-in.	120	100	70
8/4-in.	135	110	75

SOFT MAPLE—WHAD

4/4-in.	130	110	67
6/4-in.	145	120	77
8/4-in.	155	125	80

SOFT MAPLE—WHND

4/4-in.	115	90	60
6/4-in.	130	105	75
8/4-in.	135	110	80

RED OAK—PLAIN

4/4-in.	175*	100	62
6/4-in.	190	135	
8/4-in.	200	140	

WHITE OAK—PLAIN

4/4-in.	180	115	62
6/4-in.	200*	140	
8/4-in.	205	145	

PECAN

4/4-in.	110	90	40
6/4-in.	130	110	60
8/4-in.	155	130	65

POPLAR—PLAIN

	FAS	S & S	No. 1C
4/4-in.	165	155	125
6/4-in.	185	175	140
8/4-in.	205	195	150

SYCAMORE—PLAIN

	FAS	No. 1C	No. 2C
4/4-in.	115	95	60
6/4-in.	125	105	60

TUPELO— PLAIN

TUF TEXTURE—DEEP SWAMP

4/4-in.	105	85	40
6/4-in.	122	102	45
8/4-in.	160	140	

WILLOW

4/4-in.	130	110	60
6/4-in.	142	122	67
8/4-in.	150	125	70

APPALACHIAN HARDWOODS

F.O.B. mills—Johnson City, Tennessee area—estimate of present FOB Appalachian mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade of hand-sawn Appalachian hardwood in carload quantity, random widths & lengths, rough air dried & graded in accordance with

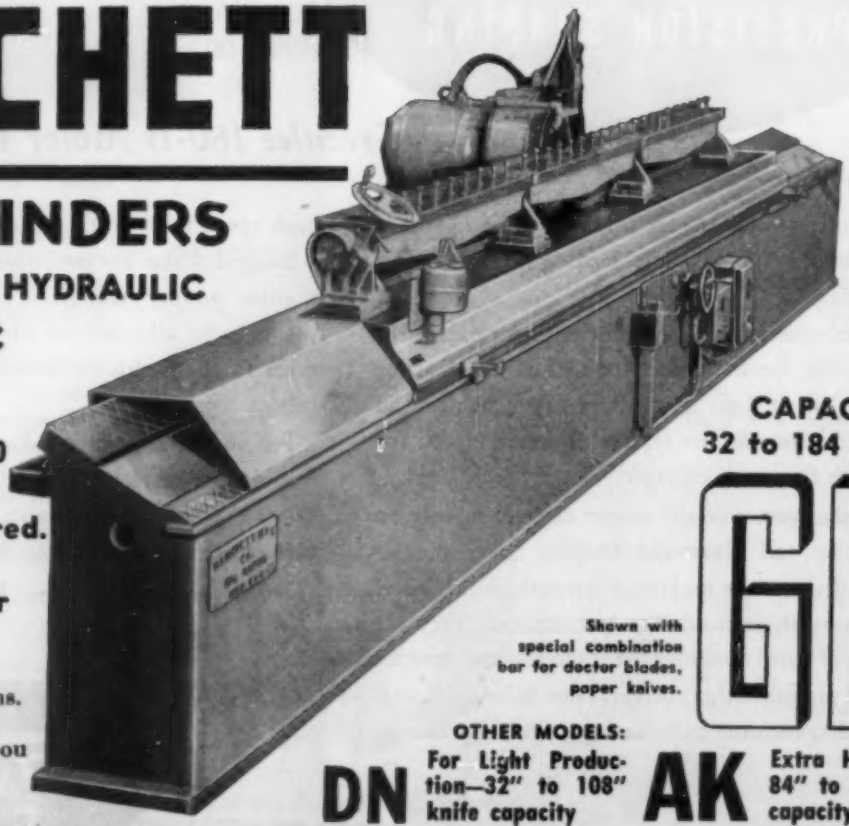
HANCHETT

KNIFE GRINDERS

TABLE DRIVEN • HYDRAULIC

FULL AUTOMATIC

ELECTRICAL



HANCHETT GRINDERS BIG RAPIDS MICHIGAN

CAPACITY
32 to 184 inches

6K

Shown with special combination bar for doctor blades, paper knives.

Speeds from 10 to 80 feet per minute.

Faster speeds if required.

Available with either Segmental or Cylinder Type Wheels.

Tell us your knife problems. Our engineers may have a money-saving solution for you

Write Dept. WWP-122

OTHER MODELS:

DN For Light Production—32" to 108" knife capacity

AK Extra Heavy Duty 84" to 360" knife capacity

HANCHETT MANUFACTURING CO.

Main Office — BIG RAPIDS, MICH.
West Coast — PORTLAND 4, ORE.

NHLA rules of inspection. Prices in dollars per M'. on straight cars of upper bracket grades, premiums are frequently being paid. Basis selected for the purpose of indicating transportation costs to principal consuming markets from Johnson City, Tennessee area.

TOUGH ASH

	FAS	FIF	No. 1C	No. 2C
4/4-in.	160	150	110	67
6/4-in.	180	170	122	72
8/4-in.	190	180	147	85

BASSWOOD

				No. 2A
4/4-in.	180	170	130	80
6/4-in.	190	180	137	94
8/4-in.	195	185	147	96

BEECH

				No. 2C
4/4-in.	145	135	110	65
6/4-in.	160	150	120	75
8/4-in.	170	160	130	80

BIRCH

4/4-in.	230	220	150	80
6/4-in.	245	235	160	85
8/4-in.	250	240	165	90

BUCKEYE

4/4-in.	135	125	100	65
6/4-in.	160	150	115	73
8/4-in.	165	155	120	78

CHERRY

4/4-in.	220	210	150	90
6/4-in.	240	230	170	95
8/4-in.	250	240	180	100

CHESTNUT

	FAS	No. 1C	FAS WHND	1C & B WHND
4/4-in.	165	115	135	125
6/4-in.	170	120	140	130
8/4-in.	175	125	150	140

HICKORY

	FAS	FIF	No. 1C	No. 2C
4/4-in.	125	115	78	53
6/4-in.	145	135	86	58
8/4-in.	165	155	90	60

HARD MAPLE

4/4-in.	190	180	125	80
6/4-in.	200	190	135	84
8/4-in.	205	195	145	90

SOFT MAPLE

4/4-in.	160	150	115	67
6/4-in.	170	160	125	69
8/4-in.	175	165	130	72

RED OAK—PLAIN

4/4-in.	185	175	120	
6/4-in.	200	190	135	
8/4-in.	215	205	145	

WHITE OAK—PLAIN

4/4-in.	200	190	125	
6/4-in.	220	210	145	
8/4-in.	225	215	155	

WHITE OAK—WHND

	FAS	FIF	C & B	No. 1C
4/4-in.	115	105	90	85
6/4-in.	140	130	120	110
8/4-in.	150	140	125	115

YELLOW POLAR—PLAIN

	FAS	FIF	No. 1C	No. 2A
4/4-in.	210	200	135	80
6/4-in.	215	205	145*	93
8/4-in.	225	215	155	..

POPLAR SQUARES

	FAS	No. 1C & SD
4x4-in.	245	175
6x6-in.	280	190
8x8-in.	340	240

WALNUT—STEAM TREATED

	FAS 6' & up	FIF 6' & up	No. 1C	No. 2C
4/4-in.	350	305	185	80
6/4-in.	370	325	210	95
8/4-in.	385	340	235	100

Walnut list reflects average fob mill, all areas. Basing point not generally observed.

NORTHERN HARDWOODS

Estimate of present FOB Wausau, Wisconsin mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade on band-sawn Northern hardwoods in carload quantities random widths & lengths, rough air dried & graded in accordance with NHLA rules on inspection. Prices in dollars per M'. on straight cars of upper bracket grades, premiums are frequently being paid.

BROWN ASH

	FAS	No. 1C	No. 2C
4/4-in.	145	105	73
6/4-in.	155	120	83
8/4-in.	160	130	88

BASSWOOD

4/4-in.	180	125	78
6/4-in.	190	135	88
8/4-in.	195	145	96

BEECH

4/4-in.	145	100	68
6/4-in.	160	115	78
8/4-in.	165	120	80

BIRCH

4/4-in.	265	145	80
6/4-in.	275	160	90
8/4-in.	280	175	100

ROCK ELM

4/4-in.	135	115	65
6/4-in.	145	125	75
8/4-in.	150	135	80

SOFT ELM

4/4-in.	125	105	71
6/4-in.	135	115	81
8/4-in.	140	120	86

HARD MAPLE

4/4-in.	190	130	78
6/4-in.	200	140	81
8/4-in.	205	145	82

SOFT MAPLE

4/4-in.	155	120	72
6/4-in.	170	130	82
8/4-in.	185	140	90

RED OAK

4/4-in.	175	125	77
6/4-in.	185	145	82
8/4-in.	195	155	85

*Air dried Northern Hardwoods are no longer available and sales presently being made cover green stock or stock only partially seasoned. Orders are being placed for stock to be cut and shipped green when accumulated.

BRADLEY

HARDWOOD

FURNITURE

DIMENSION

Holds its position of

FIRST PREFERRED

with manufacturers who like to buy, free from any doubts as to quality.

Solid & Glued

Cut to Size

Run to Detail

BRADLEY LUMBER CO. of Arkansas

WARREN, ARKANSAS

WANTED

ADHESIVE PROBLEMS

Our Laboratories are anxious to work on adhesive problems others have failed to solve.

We have developed adhesives for

Plastic	Glass	Fibreglass
Fabric	Pliofilm	Plywood
Tinfoil	Brakes	Polythene
Leather	Metal	Cellophane
Rubber	Cork	Concrete

and many other materials.

Write us if you have an adhesive problem. Samples will be submitted without charge.

ADHESIVE PRODUCTS

CORPORATION

1660 BOONE AVE. · NEW YORK, N.Y.

ESTABLISHED 1895

NAMES and EVENTS

Personnel Changes

R. P. Fulwiler

RAYMOND P. FULWILER has been elected president of the Algoma Plywood and Veneer Co., Algoma, Wis., a subsidiary of the United States Plywood Corp., New York, N. Y. Mr. Fulwiler joined Algoma Plywood in 1926 as an assistant in the production department. He was elected vice-president in 1944, and at the same time was appointed superintendent in charge of personnel, equipment and buildings.

RUSSELL EARLEY, comptroller and assistant treasurer, St. Paul & Tacoma Lumber Co., Tacoma, Wash., was elected a trustee of the Controllership Foundation, the research arm of the Controllers Institute, 1 East 42nd St., New York 17, N. Y.

KENNETH A. BOOS, assistant secretary and assistant treasurer of the Upson Co., Lockport, N. Y., has been elected treasurer, and JAMES J. UPSON, executive vice-president and secretary has been named to the board of directors of the company.

DONALD S. MACINTYRE has been named treasurer and controller of the Georgia-Pacific Plywood Co., Olympia, Wash.

JAMES D. RHODES has been appointed division engineer of the Frost Lumber Industries, division of Olin Industries, Inc., and for the time being will make his headquarters in Shreveport, La.

EMIL HOLZWART has been appointed production manager of the General Box Co., 1825 Miner St., Des Plaines, Ill. He fills the vacancy caused by the recent death of D. F. Hahn.

DR. MICHAEL AFANASIEV, forestry professor at Oklahoma A & M College, is spending a three and one-half month "leave for study" with the Weyerhaeuser Timber Company's forestry research department in Tacoma, Washington.

DONALD F. MURPHY was elected a vice-president of Rohm & Haas Co., Washington Square, Philadelphia 5, Pa.

DAVID B. TYLER was appointed advertising manager of Norton Behr-Manning Overseas, Inc., Worcester 6, Mass.

F. J. Haas

FERDINAND J. HAAS, for many years a well-known figure in the lumber trade in and around Cincinnati, Ohio, has joined E. J. Stanton & Son, Inc., Los Angeles, Cal., and will have charge of sales and purchases in the newly-formed dimension division of that company. Mr. Haas is a past president of the Hardwood Dimension Manufacturers Association and was a member of the board of directors of that Association.

New Firms

BENTONIA HARDWOOD CO., INC., has been granted a charter of incorporation, listing capital stock of $25,000.

You Can Always Depend on

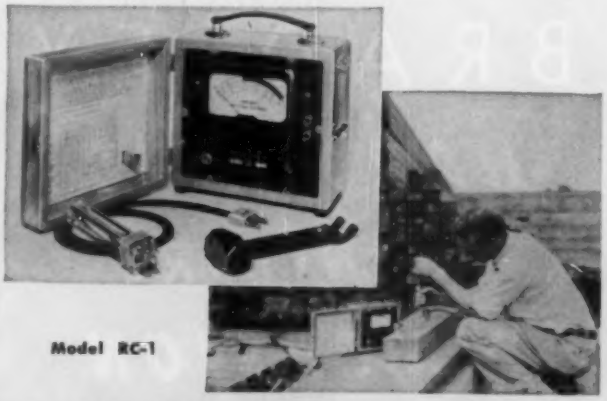
Permawood
HARDWOOD PLYWOOD

Since 1918 the management and supervisory personnel have set high standards for PERMAWOOD. By patient employee training, careful timber selection and use of the finest machinery, we have made a product we are proud to label as PERMAWOOD Hardwood Plywood.

High-frequency Edge-Gluer used in producing finer lumber core for PERMAWOOD Hardwood Plywood.

We make PERMAWOOD panels in standard sizes, all veneer construction from 3/20" to 1-1/16" thick, and in lumber core construction in 3/4" and 13/16" thickness. Widths from 30" to 48"; lengths from 36" to 96". Write for latest stock lists and prices.

DARLINGTON VENEER CO., INC.
Established in 1918
DARLINGTON, SOUTH CAROLINA



Model RC-1

"SAVES HOURS"! with
Delmhorst Moisture Detector . . .

. . . Says Mr. Herbert Seidel, Reisen Hardwood Lumber Co., Union, N. J.

". . . We use it constantly to check the moisture content of incoming lumber, to select air dry stock from the yard stocks and to check out-going lumber," writes Mr. Seidel.

"In the kiln operation, the Moisture Detector has proved to be a necessity (especially when used with the 26E electrode) for making quick checks on lumber entering the kilns . . . saves the kiln operator hours in starting a new charge in the kiln. . . .

"We know that it has paid for itself time and again in every operation of our business that requires knowledge of lumber moisture content."

Some Moisture Detector Advantages

- Quickly and accurately measures moisture content of any wood product from 6-65% (veneers, lumber, timbers, etc).
- Direct reading in percentages on large 4½ inch dial. No calculations required.
- Ideal for dry kiln testing—wet cores can be tested without cutting lumber.

Guaranteed for one year. Write for full information.

DELMHORST INSTRUMENT COMPANY
605 CEDAR STREET • BOONTON, NEW JERSEY

SHUTTERS UNLIMITED, INC., manufacturers of all kinds of wood products has been formed in New York City. Directors: Elsie H. Dubin, Belle Z. Litt and Elizabeth Kirby, whose addresses were listed as 25 W. 48rd St., New York, N. Y.

ARKPORT LUMBER CO., INC., Arkport, Steuben County, N. Y., lumber, pulp wood, saw mills, and planing mills, has been formed with the following directors: Kathleen Johnson, Richard Johnson, both of 52 W. Genesee St., Hornell, N. Y., and James Newell, Arkport, N. Y.

MOHAWK CABINET CO., INC., Oklahoma City, Okla., is a new company listing authorized capital stock of $200,000. Officers are: A. H. Mahnker, 735 First National Bank Bldg., Oklahoma City, is the registered agent.

BEST WOOD BOXES, INC., Manhattan, N. Y., is a newly organized concern equipped to manufacture wooden boxes of all kinds. Directors: Ruth Keen, Gertrude Roth, and Samuel A. Roberts.

ACME FIXTURE CO., INC., 2711 E. 30th St., Chattanooga, Tenn., has been organized to manufacture cabinets and store fixtures. The incorporators are: O. B. Brown, D. A. Massey, P. M. Betterton, and A. D. Massey.

RICHARD LUMBER CO., INC., 31 E. Main St., Rochester 14, N. Y., is a new concern in the logging, lumber, and sawmill business. The directors are: Myron S. Lewis, Charles W. Sutton, and Rae A. Clark.

PENTAWOOD PRODUCTS CO., INC., Houston, Texas, has been granted a 50-year-charter of incorporation. The incorporators are: O. J. Gilson, L. M. Rich, and E. H. Taylor.

HAMILTON HARDWOOD LUMBER CO., INC., Speculater, N. Y., lumber-logging camps—timber, has been organized with a capital stock of 200 shares with no par value.

FRANK'S HOME EQUIPMENT CO., INC., Buffalo, N. Y., manufacturers of furniture, is a new company recently organized.

LUMBERMEN'S MILLWORK & SUPPLY CO., INC., Ardmore, Okla., has filed articles with the secretary of state extending its charter of incorporation 50 years from August 2, 1952.

CROWN STORE FIXTURES, INC., Bronx, N. Y., woodwork, cabinets, store fixtures, etc., has been organized. Directors are: Geneva M. Marsh, Mylo J. Holl[illegible], and Louis Norris.

Expansions

A. J. KING LUMBER CO., Sevierville, Tenn., flooring manufacturers, has recently enlarged its plant facilities and installed new equipment.

MILLER MANUFACTURING CO., one of Nashville's oldest millwork plants, has been purchased and enlarged by Seth T. Peavy and Howard H. Pardue, former executives of the Nashville Chair Co.

GREENEVILLE CABINET CO., Greeneville, Tenn., subsidiary of the Magnavox Company, is adding a third story to its plant which will provide 10,000 square feet for offices and storage.

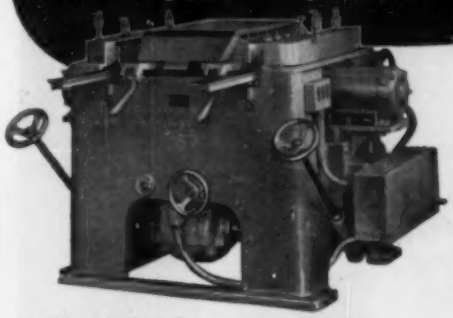
CROSSETT LUMBER CO., Crossett, Ark., has now under construction a new $300,000 hardwood flooring plant which will contain two complete flooring units. The new plant is a replacement of the one destroyed by fire in 1948.

UNITED STATES PLYWOOD CORP., 55 W. 44th St., New York 18, N. Y., has opened a new sales and distribution plant in South Chicago, Ill. The plant will serve the Chicago suburbs, East Central Illinois, Southwest Michigan, and North Indiana. The Chicago office of the company is located at 900 West Madison St.

E. L. BRUCE CO., Memphis, Tenn.,

Adjustable for Quick Set-Up

Mereen-Johnson No. 326
MATCHER-JOINTER

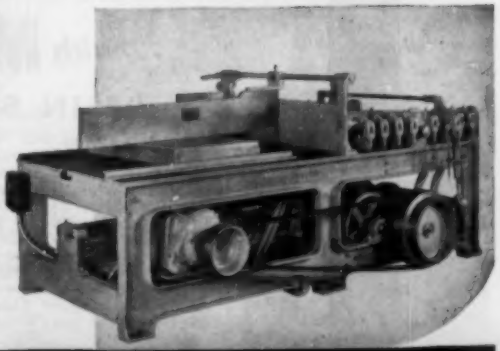


- **Chain feed—motor drive**
- **Thicknesses up to 2¼"**
- **Gluing device optional**

There is no equal for "T", "G", or jointing work in box making . . for jointing butter tub heading . . . for tobacco hogshead staves. Both infeed and outfeed tables have a vertical adjustment for accurate alignment of tables and cutters. Cutter head motors have horizontal and vertical adjustment, and the idle feed roll sections are quickly adjustable for various thicknesses of stock. *Ask for Bulletin No. 326.*

No. 32 *Automatic* BOX BOARD SQUEEZER

Works equally well whether stock is glued, warped, rough or finished. Even cottonwood and tupelo can be successfully used for matched shooks. Automatic hopper feed. One Squeezer will handle all stock run from two or three Matchers —speeds up all other operations. Four models for stock from 32 to 54" wide. *Ask for Bulletin No. 32.*



Mereen-Johnson MACHINE COMPANY
4401 Lyndale Avenue North • Minneapolis 12, Minnesota

is rebuilding the plant of the Nashville Hardwood Flooring Co. at a cost in excess of $500,000.

DIAMOND LUMBER CO., Portland, Ore., has purchased the Ford & Ford Lumber Co. of that city. The plant will operate under the name Diamond Lumber Co., Portland Branch.

INDUSTRIAL PLYWOOD CORP., Willits, Cal., has been recapitalized for $500,000. The Company recently purchased the Jensen Lumber Co. timber holdings in Mendocino County.

DURABLE PLYWOOD CO., Arcata, Cal., has aquired the Coast Plywood Manufacturing Co., Calpella, Cal. Jalmer Berg is president and general manager of the parent company.

EVANS PRODUCTS COMPANY, Plymouth, Michigan has purchased a new $1,500,000 plywood plant at Winchester, Oregon, from the Mar-Linn Timber Corporation of Eugene, Oregon. Located on a 160-acre tract of land on the main line of the Southern Pacific Railroad and on U.S. 99 it is near Roseburg, Oregon which is only 20 miles from the company's 400,000,000-board-foot tract of Douglas Fir. The new plant completed in 1951 will be directed by H. B. Garrison, vice president of the Evans company's Western Division.

THE KIRBY LUMBER CORPORATION, Silsbee, Texas, has announced a centralization program which calls for the construction of a ten million dollar sawmill in the Silsbee area to eliminate the company's present sawmills at Bessmay, Honey Island and Silsbee, Texas.

UNITED STATES PLYWOOD CORP., New York, N. Y., has filed articles with the office of the secretary of state increasing its capital stock from 14 million to 16 million dollars.

THE ALEX MANUFACTURING CO., Stamps Ark., is rebuilding its plant which was recently destroyed by fire.

U. S.-MEMGEL PLYWOODS, INC., has opened a new sales and distribution unit in Miami, Florida. The unit is the 22nd such installation for the company, which is jointly owned by the United States Plywood Corp. and Mengel Co. It is located at 71st Street, N. W., and 35th Court.

Fires

T. V. NOVELTY CO., Scottsburg, Ind., owned by the Smith Manufacturing Co., Salem, Ind., was destroyed by fire October 23 with an estimated loss of $100,000.

BEST MOULDING CORP., Albuquerque, N. M., sustained a $75,000 loss by fire recently which destroyed nearly 90 percent of the company property.

EAST TEXAS WOOD TREATING CO., near Beaumont, Texas, had an estimated $12,000 fire loss that destroyed the main building of the plant.

J. D. SCOTT LUMBER CO., Nashville, Ark., lost its sawmill in a fire October 21. It will be rebuilt, according to Joe D. Scott, owner.

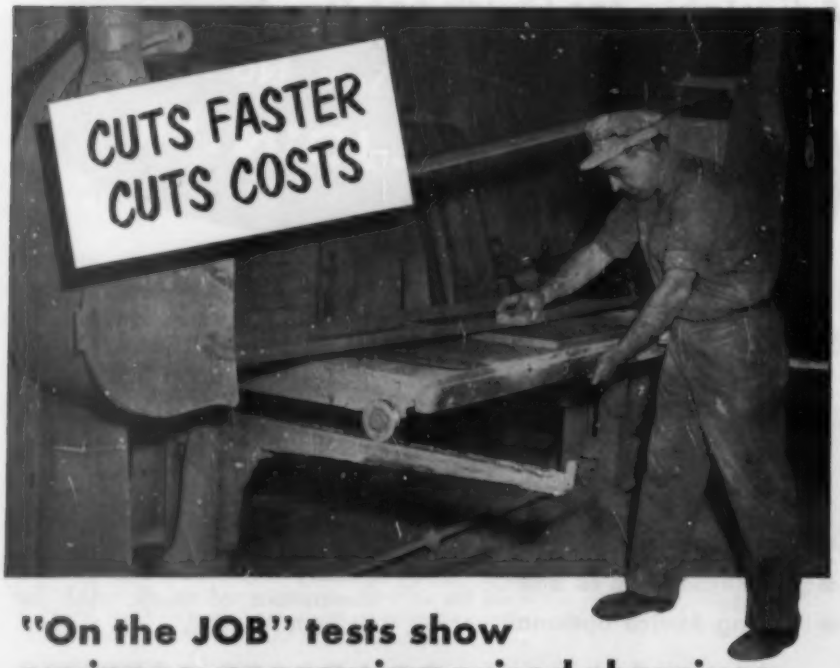
WAYNESBERE VENEER CO., Waynesbere, Ga., was destroyed by fire October 20, with a loss of $250,000.

E. C. LAUGHLIN & SONS, INC., Merten, Miss., manufacturers of hardwood products, sustained a $30,000 fire loss October 15.

Associations

NATIONAL ASSOCIATION OF HOME BUILDERS, 111 W. Jackson Blvd., Chicago 4, Ill., will hold its 1953 convention and exposition in the Conrad Hilton Hotel, Chicago, Ill., January 18-22, 1953.

SOUTHERN PINE ASSOCIATION, National Bank of Commerce Bldg., New Orleans, La., will participate in a sawmill machinery exposition that will be held in conjunction with its annual



"On the JOB" tests show
savings over premium priced abrasives...

...with MID-WEST
RESIN SEAL GARNET

Customers tell us that "on the job" tests have proven Mid-West Resin Seal Garnet to be superior to other coated abrasives costing much more. That is why we urge you to make a test run with Mid-West and compare it with the brand you are now using.

Designed specifically for the woodworking industry, Mid-West Resin Seal Garnet material is made with medium or heavy weight paper and all cloth backings, and flexibilities in belts, sheets, rolls or discs . . . or in any other standard form.

Why not let us show you how we can cut costs on your sanding operations? There is a Mid-West field representative ready to serve you. Write us for his name.

MID-WEST ABRASIVE CO.
EXECUTIVE OFFICES:
OWOSSO, MICH.

MID-WEST QUALITY ABRASIVES

Plants in Owosso, Michigan and Rochester, Pennsylvania

meeting in New Orleans, La., April 8-10, 1953.

INDIANA HARDWOOD LUMBERMEN'S ASSOCIATION, Horticulture Bldg., Purdue University, Lafayette, Ind., will hold its 55th annual meeting in the Hotel Severin, Indianapolis, Ind., January 30, 1953.

Miscellaneous

AMERICAN WOODWORKING MACHINERY CO., Hackettstown, N. J., has recently purchased the sole rights to the Uni-Point Radial Saws which were formerly manufactured by the American Sawmill Machinery Co.

MONSANTO CHEMICAL CO., has made three sales staff changes in their Western Division, as follows: Harry Galber, formerly manager of plywood glue sales, is now manager of technical sales for the division. C. F. Brunson, was named sales manager for plywood adhesives and Ogden Carmichael will be assistant to Brunson, dividing time between the Seattle general office and the Eugene, Oregon branch office.

Deaths

CHARLES WILLARD STIMSON, well-known lumberman of the Pacific Northwest since the turn of the century, died October 3 at the age of 73 at his home in Seattle, Washington. Mr. Stimson was the principal owner and founder of the Stimson Lumber Co. and the Forest Fiber Products Co., Forest Grove, Ore.

THERWALD A. CARLSON, 59, nationally known packaging expert died October 24 at a Madison, Wisconsin hospital. He directed the packaging operations of the military forces during World War II as chief of Packaging Research at the U. S. Forest Products Laboratory.

WOODICTIONARY

STOCK WIDTHS

Lumber cut in even widths from 4 to 12 inches.

Wood You Believe It?

The most tragic forest fire in American history occurred at Peshtigo, Wisconsin, October 8, 1871. It started on the same day and hour Mrs. O'Leary's cow kicked over a lantern to set Chicago in flames. Peshtigo's forest fire toll was 1,500 people killed and one and one-quarter million acres of forest land burned.

?

Colonel William B. Greeley, former Chief, U. S. Forest Service, and now Chairman of the Board of American Forest Products Industries, in his recent book, *Forests and Men* has stated: "Fifty years ago the forest industry was busily building bigger and better sawmills. Today the same profit motive is at work for bigger and better crops of timber."

?

The Forest Industries Nursery at Nisqually, Washington recently seeded its beds to produce 10.6 million trees for planting on private timberlands of western Washington and Oregon. Since its founding in 1941 this nursery, with this year's output, will have produced 55 million trees—enough to plant 100,000 acres of Douglas fir tree farms.

YA®

FURNISHED WITH 2, 3, or 4 KNIVES

The Series RT Heads are made of a special steel that assures accuracy and safety. RT Heads are equipped with High Speed Steel thin knives that wear longer and have a lower replacement cost than the carbon knives used on the conventional 2 or 3 wing cast heads. Spurs have plain backs and beveled sides—the entire bevel holds the spur rather than just the bevel on a flat head clamping screw.

MATCHERS • BAND RESAWS • SURFACERS
SANDERS • CIRCULAR RIPSAWS

YA® Yates-American
BELOIT, WISCONSIN

Are You Spending Hours to do a 30 Second job

Could be . . . unless you're using modern electronic gluing and laminating methods.

Mann-Russell RF Generator

Mann-Russell Veneer Edge-Gluer

Mann-Russell Lumber Edge-Gluer

Speed production — cut costs — with Mann-Russell Electronic equipment — generators, patchers, lumber and veneer edge-gluers. All units custom-designed to meet your particular needs and installed by factory-trained experts.

If your production calls for gluing up short lengths, edge-gluing hard or soft wood veneers, or other lamination — write today for specific data, outlining your problem.

Mann-Russell Electronics
Dept. 20

NORTHWEST SYNDICATE, INC.
1321 A STREET TACOMA 1, WASHINGTON

Standard DRY KILNS

"...PERFORMED JUST AS YOU TOLD US THEY WOULD."

Dwight E. Jones, Vice President
E. D. JONES & SONS COMPANY
Pittsfield, Mass.

Mr. Jones writes: "We are pleased to report that the Standard Dry Kilns which we put in operation in April have performed just as you told us they would. We have already taken out 2" oak and maple and have found these materials harder and much more stable than any materials naturally dried. The good part about Standard Dry Kilns is that they have been running with a minimum of attention."

This is a new type Standard Dry Kiln. Package loaded with fork lift trucks, it is particularly adapted for concentration yards, wholesale lumber yards, and certain manufacturing plants.

•

In the E. D. Jones & Sons operating room, this fully automatic, oil-fired boiler supplies steam to two kilns. No fireman or attendant is necessary at any time for the operation of the kilns or boiler.

WE SELL THE FIRST *Standard...*
Performance SELLS THE REPEATS!

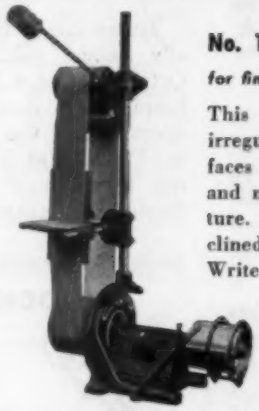
Write for illustrated Standard Catalog

Manufacturers of Internal Fan Kilns

STANDARD
Engineers and Manufacturers Since 1897
DRY KILN COMPANY

P. O. BOX 5708 • INDIANAPOLIS, INDIANA

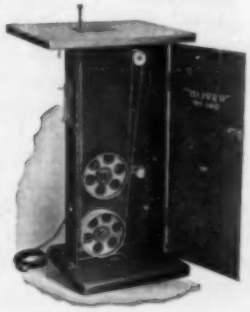
There's an "OLIVER" Sander to save money on each job



No. 127-D Variety Belt Sander

for finishing curved surfaces

This versatile "Oliver" sands small and irregular shapes, edge work and flat surfaces like brush backs, frames, period legs, and medium size built-up pieces of furniture. Belt may be used in vertical or inclined positions. Belt or motor driven. Write for Bulletin 127-D.



No. 190 Scroll Edge Sander

sands edges of grills, chair backs, etc.

Does more work than four skilled men can do by hand in the same time. Sands inside and outside edges, and other scroll work. Used in over 400 furniture plants. Compact and motor-driven. Write for Bulletin 190-D.

"Oliver" makes a wide line of Sanders for woodworkers—belt, drum and disk types. Write for full details.

OLIVER MACHINERY CO., Grand Rapids 2, Mich.

WILLOW
IS FEATURED IN '52

FOR
FURNITURE
CABINETS
PANELING
CASKETS
CORES

Our three mills are located in the Mississippi, Atchafalaya and Red River basins of Louisiana which produce the finest Willow in America.

Large and well assorted stocks of this fine willow are ready for immediate mill shipments at all times. We can meet your exact needs, all thicknesses and grades 4/4" to 8/4" or include in mixed cars with Port Barre white ash and other Southern Hardwoods. Prompt attention will be given to all inquiries.

The Port Barre Lumber Industries, Inc.

Manufacturers of Southern Hardwoods
Port Barre, La.

Patent Digest

by Royden C. Rinker

Saw

F. D. Butler. U. S. 2,599,893, June 10. Portable power saw mitering machine.

Debarking

J. K. Williford. U. S. 2,599,962, June 10. Truck-mounted debarking machine having staggered flail-carrying drums for broadside attack on rotating logs.

Lumber Separator

E. D. Wilson. U. S. 2,600,147, June 10. Vertical lumber separator.

Lignin

W. J. Balon (to E. I. du Pont de Nemours & Co.). U. S. 2,600,606, June 17. Water-soluble reaction products of lignin, boric acid, and a phenol.

Plywood

A. R. Welch. U. S. 2,601,349, June 24. Conveying in a line a succession of metal plates with ends spaced apart, depositing thereon veneer plies; laying thereon a succession of core plies having both faces glue-coated, laying thereon successive plies, severing the continuous line between metal plates, pressing and curing, and stripping from the metal plates.

Wood Digestion

M. E. Martin and D. L. Sherk (to Celanese). U. S. 2,601,408, June 24. Digesting wood with aqueous lower aliphatic acid, recovering and additionally digesting with lower aliphatic acid.

Jointer

W. L. Van Dam (to Atlas Press). U. S. 2,601,879, July 1. In a jointer, a base having side walls each having a lateral aperture, bearing hangers with bearings, means mounting said hangers for vertical adjustment, a cutter head, and a fixed rear table.

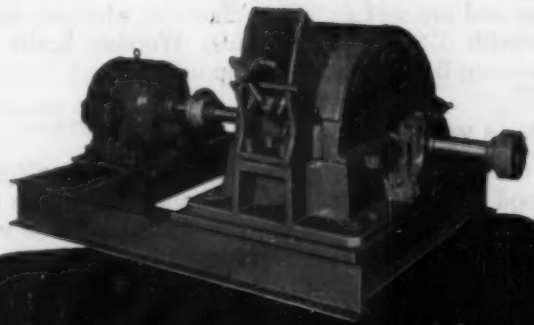
Guaiacyl Compounds

I. A. Pearl (to Sulphite Products Corp.). U. S. 2,602,089, July 1. Digesting gymnosperm lignin in aqueous cupric oxide and alkali hydroxide under pressure and at 160-180°C.

Log Fitting

G. W. Tibbets. U. S. 2,602,476, July 8. In an apparatus for cutting logs, a cutter, a frame assembly including a pair of side members and having means at one pair of ends to support the cutter, a drive connection for the cutter, a spring to support the frame, and means connected to the frame for displacing said frames against the opposing yielding force of the frame.

M&M hogging equipment



Let M & M Disposal Equipment turn your waste into profits. These machines are built in many types and sizes for slabs, edgings, trim, blocks, veneer, bark, and other combustible waste. Don't overlook the extra dollars that can come from utilizing every available bit of waste. Send us your problem and we'll show you how M & M Disposal Equipment can solve it.

MITTS & MERRILL

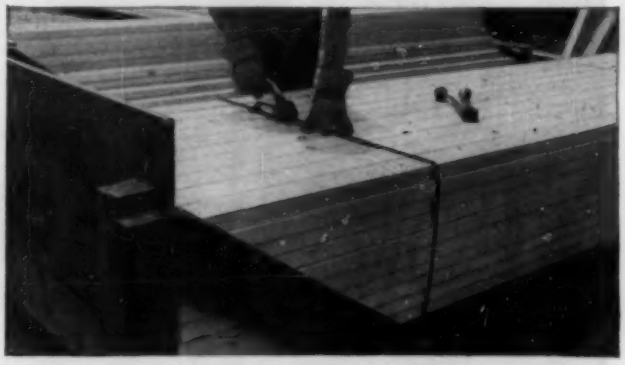
1018 South Water • SAGINAW, MICHIGAN

Every piece salable!

Twisting, crooking and bowing prevented by a few cents worth of

Signode Steel Strapping

Try this idea! Tension Signode Steel Strapping around your green dimension lumber before air drying. At the end of the drying period, lumber will come from the piles straight and true. That means *more salable lumber, more profits!*



Keeps retailers happy

Misshapen lumber cuts into your retailers' profits also. Retailers, receiving it repeatedly look elsewhere for their supplies. Thus, the few cents worth of Signode Steel Strapping you applied prevents losses in air drying—also is a good will builder!

Shiploads strapped

Hundreds of mills and retail yards bundle lumber with Signode Steel Strapping for shipment by rail or by truck. The reasons: speeds handling and stowing; discourages pilferage; prevents accidental loss; permits safer handling by fork or straddle trucks; ends pile spilling and increases safety for workmen.

We teach yard crews

Your yard crew can be taught quickly to bundle lumber for drying or shipping with Signode Steel Strapping. Our fieldmen will teach them. To have a fieldman call, write

*Another exclusive service proved and tested for you by Signode.

TESTED AND APPROVED

SIGNODE

Steel Strapping Company

2655 N. Western Ave., Chicago 47, Ill.

this seal means security in shipping

SIGNODE

Offices Coast to Coast.
In Canada: Canadian Steel Strapping Co., Ltd.
Foreign Subsidiaries and Distributors World Wide

Christmas 1952

Since 1896 it has been the pleasure of the Atlantic Lumber people to gather at Christmas with families and friends, to offer thanks and be merry.

Once again may we wish you real happiness on Christmas and throughout the coming year.

THE ATLANTIC LUMBER CO.

88 BROAD STREET, BOSTON 4, MASS.
1055 SENECA ST., BUFFALO 10, N. Y.

Wood Puzzlers

This department is designed to help you find an answer to your production and sales problems. Send us the facts. Experience has shown that some other readers can help.

Vanillin, Creosote Beechwood, Guaiacol—No. 75

We understand that certain products used in our industry such as Vanillin U. S. P., Creosote Beechwood, Guaiacol, etc., can be produced from some portions of the waste developed by the lumber industry. We would like to contact any such manufacturers with reference to the production of these products, either in crude or finished form. Would it be possible to supply us with a list of potential producers? (N. Y.)

Machine for Duplicating Molder Knives—No. 76

We have a customer who needs a small machine for duplicating molder knives. Thank you very much for any help you can give us in locating a manufacturer. (Texas)

Basswood Drawing Boards—No. 77

Can you help us find a source of supply for basswood drawing boards? We have a large demand for these from schools and would very much appreciate being advised where we can find a manufacturer. (Texas)

T-Squares, Triangular Wooden Scales—No. 78

We are adding several new domestic items to our line and are seeking a manufacturer who can supply us with T-Squares, Triangular Wooden Scales and Drawing Boards. Can you help us? (Conn.)

Wood Waste—No. 79

Can you help us find a solution to our problem of wood waste? We manufacture pallets and crates from green rough sawed lumber. In addition to the waste from this operation, our mills in the woods produce sizable quantities edgings, slabs, and sawdust which could be moved to our plant. (Ohio)

Rough Turned Wood Blocks—No. 80

We are looking for a source of supply for rough turned wood blocks approximately 3¾ inches by 20 inches long, or the sanded finished block 3½ inches by 20 inches. No holes are needed. We could also use stock 48 inches and up rough turned to about 3¾ inches diameter. Material to be maple and birch, and must be clear. (Pa.)

Oak Water Barrel—No. 81

We are interested in procuring an oak water barrel, approximately 15 gallon capacity. If you can indicate a source where we could get this item we would appreciate it very much. (Ala.)

MANUFACTURERS OF

WOOD TURNINGS

AUTOMATIC LATHE

Chippewa Wood Products Co.
Radyard, Mich.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

H. G. Winter & Son
Kingfield, Me.

•

DOWEL RODS & PINS

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

E. Henning, Inc.
431 S. Dearborn St.
Chicago 5, Ill.

Charles D. Roberts Co.
Greensboro, N. C.

J. A. Thurston Co., Inc.
(Mfgrs.)
P. O. Box 478
Bethel, Me.

•

FURNITURE & CHAIR PARTS

The Evans Co.
Canton, Miss.

•

HANDLES

Allen-Rogers Corp.
Laconia, N. H.

Boss Whipple Mfg. Co.
Fourth Ave. & South St.
Union City, Pa.

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Charles D. Roberts Co.
Greensboro, N. C.

The Stratton Co.
100 Main St.
Stratton, Me.

H. G. Winter & Son
Kingfield, Me.

KNOBS—WOOD

Allen-Rogers Corp.
Laconia, N. H.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

H. G. Winter & Son
Kingfield, Me.

•

MOULDINGS—CARVED TURNED & EMBOSSED

Forsyth Mfg. Co.
2246 W. Kinzie
Chicago 12, Ill.

•

ORNAMENTAL TURNINGS

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

•

SPECIAL TURNINGS

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

H. G. Winter & Son
Kingfield, Me.

•

TOY PARTS (Turned & Shaped)

Bogert & Hopper, Inc.
101 W. 31st St.
New York 1, N. Y

C. B. Cummings & Sons Co.
Norway, Me.

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

E. Henning, Inc.
431 S. Dearborn St.
Chicago 5, Ill.

H. G. Winter & Son
Kingfield, Me.

TURNINGS—GENERAL

Allen-Rogers Corp.
Laconia, N. H.

Crane & MacMahon, Inc.
St. Marys, Ohio

Henry V. DeGalan Co.
Sales Office
1105 Beaufait St.
Detroit 7, Mich.

Frary Wood Turning Co., Inc.
Wilton, Me.

The Harrison Co.
260 Broadway
Brooklyn 11, N. Y.

Levenson Woodturning & Mfg. Co.
3755 S. Broadway Place
Los Angeles 7, Calif.

G. F. Mooney & Son, Inc.
66 S. Main St.
Farmington, N. H.

The Stratton Co.
100 Main St.
Stratton, Me.

H. G. Winter & Son
Kingfield, Me.

•

WOOD PARTS TO ORDER

Bennett Lumber & Mfg. Co.
Zeeland, Mich.

Chris-Wood Products Co.
Kingsville, Ohio

Curry Wood Products
260 W. Broadway
New York, N. Y.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

The Woodcraft Corp.
Bay City, Mich.

•

WOOD SPOOLS & REELS

North Waterford Spool Co.
North Waterford, Me.

H. G. Winter & Son
Kingfield, Me.

If you manufacture Wood Turnings your firm name should be listed on this page. The cost is nominal. For further information write today: WOOD AND WOOD PRODUCTS, **139 N. Clark, Chicago 2, Ill.**

Foreign Woods

(continued from page 44)

trade with varying degrees of acceptance. Some of them probably will become well known veneer woods in the course of time. From the Philippines come the several White Lauans, Mayapis, and Manggasinoro. West Africa supplies Obeche, Chenchen, and Olon. Peroba Rosa, Ojoche, and a white Jacaranda from tropical America may be suitable, also.

There are many fine yellow, greenish yellow, and brownish yellow woods in the tropics, few of which are known on our markets. It is difficult to justify the nearly complete refusal to introduce these attractive woods. Originally, some of them failed as substitutes for Satinwood, hardly a condemnation on our present market. A few of the woods in this category are Emeri, Kusia, Nargusta, Pau Armarillo, Comino, and Vinhatico.

There remains for our discussion only one group of woods "whose numbers are legion" and whose colors are brownish red, red, or reddish brown. Perhaps their greatest curse is that many of them bear some resemblance to mahogany and have at some time been introduced as its substitute. Good woods in their own right, at least a score could hold their own as veneers and plywood on our markets. Some of the better known are Sapele, Santa Maria, Makore, Determa, Utile, Jequitaba, Andiroba, Nyato, and Maranggo. Agba, Bosse and similar pinkish brown woods could be added to the list.

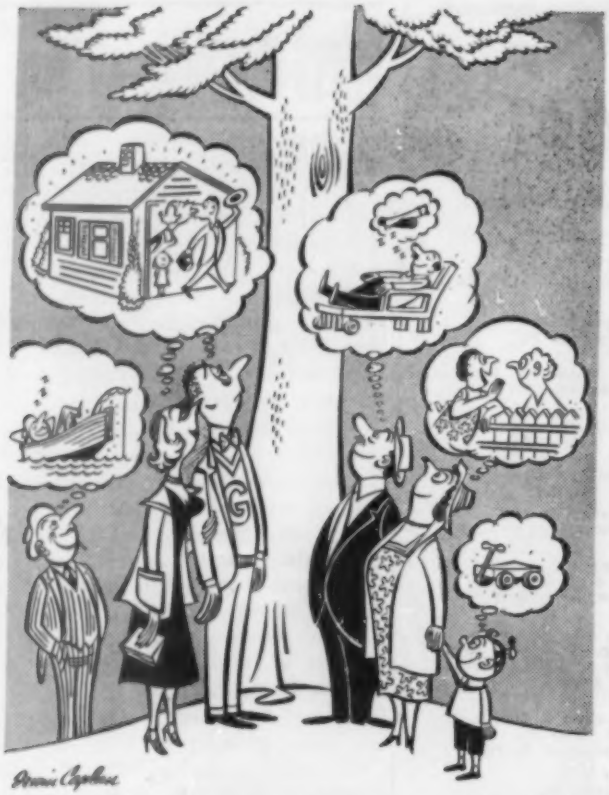
Do You Need

• MEN ?
• MATERIALS?
• MACHINERY?

Here's The Place To Find Them!

AT MODERATE COST

Wood & Wood Products



"That tree is going to solve a lot of problems"—and our more than 39 years of service is an assurance to Industrial users of Plywood and lumber products of "no problem" where a dependable source of supply is concerned. This should be of real interest to you. For Pine and Fir cut-stock, factory grade Pine, Fir Plywood in standard sizes or cut-to-size, it's PAMUDO!

IF YOU HAVE A WOOD PRODUCTS PROBLEM, CALL

Pamudo

(PACIFIC MUTUAL DOOR CO.)

GENERAL OFFICE • Direct Shipments . . .
Straight and Mixed Cars.
Lumber and Lumber products . . . Fir and Pine Mouldings, Doors, Plywood and Cut-Stock
Stock Millwork—Cut-to-size Industrial Plywood.

TACOMA BUILDING, TACOMA 2, WASHINGTON
Warehouse stocks of
Plywood • Doors
Mouldings • Stock Millwork

WAREHOUSES IN 5 PRINCIPAL CITIES
- St. Paul 4, Minnesota
- Kansas City 5, Kansas
- Chicago 38, Illinois
- Baltimore 31, Maryland
- Elizabeth, New Jersey

AWAY OUT FRONT IN Container Wire

★ When it comes to experience in the design and manufacture of container wire, Mid-States has no equal.

Mid-States pioneered the first industrial container wire ever produced . . . and has met the industry's ever-changing demands for half a century.

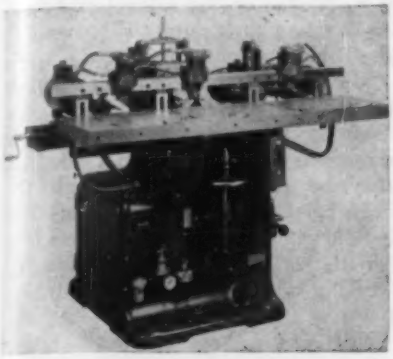
Today the majority of makers of containers for perishable foods, and many others, look to Mid-States for stapling, box-binding, handle and loop wire.

Mid-States' experience is available to *you*. Our sales and service engineers are ready at all times to help you find the most practical and economical answers to your handling and shipping problems. Let's get acquainted.

MID-STATES STEEL & WIRE COMPANY

CRAWFORDSVILLE, INDIANA
JACKSONVILLE, FLORIDA

New and Improved Products



Boring Machine Air Clamps

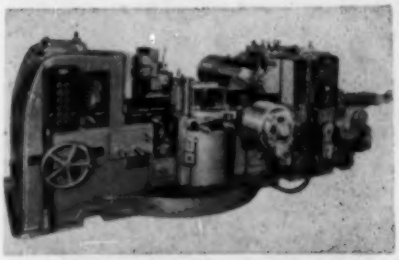
The Oliver Machinery Co., Dept. W, 1025 Clancy, N. W., Grand Rapids 2, Mich., has just announced their new style extra heavy air clamps for the Oliver No. 71-DX Boring Machine. The machine shown has five horizontal spindles. There are three extra heavy air clamps controlled by an adjustable cam mounted inside the base and synchronized with the horizontal travel of the bits. They are quick-acting and have a special design which eliminates the possibility of play in the clamps.

The bar on which the clamps are mounted is extra heavy steel cross section and permits the adjustment of the air clamps in any position along the length of the bar. The upright brackets do not interfere with the position of the air clamps.

Single Pad Air Sander

National Air Sander, Inc., Dept. W, Rockford, Ill., is introducing their new Model 600, straight-line action, single pad air sander. This fast, powerful machine weighs only 5 lbs. and operates at 3200 rpm. It has a 5/16 inch pad stroke and 25 sq. in. of abrasive area.

The Model 600 has a built-in water spray for wet sanding work, and is available with either rubber or felt backing pads. Improved paper holders allow simple and quick paper changes. Paper size required is 3⅔ inches x 9 inches.



Planer-Matcher

An addition to their line of high production woodworking machinery, Ekstrom, Carlson & Co., Dept. W, 1400 Railroad Ave., Rockford, Ill., has just announced their new No. 615 Planer-Matcher. Heavy-duty in every sense of the word, this new machine is built to accommodate up to 75 HP motors for driving the top head; 50 HP motors for the bottom head; 40 HP drive motors for the left side head; 25 HP motors for both the right side head and the bottom profile head; while the top profile head can be equipped with up to 30 HP motors.

Hoist motors are furnished as standard equipment for the feed rolls (front and rear); also for the top head.

Smooth Dovetailing

WITH

WYSONG & MILES BITS

For longer life and greater accuracy insist on Wysong Dovetail Bits. Six popular sizes in carbon and high speed steels available from stock.

WYSONG and MILES Co.

GREENSBORO, NORTH CAROLINA

DOVETAILERS • MORTISERS • SANDERS

FAMOWOOD . . . the AMAZING

ALL-PURPOSE PLASTIC for wood finishes!

Applies like putty . . . Sticks like glue!

FAMOWOOD is the answer . . . where wood finishes are important. Simple to use . . . efficient, lasting, time-saving, when filling wood cracks, gouges, nail and screw holes or correcting defects. Dries quickly, does not shrink. *Stays put* under adverse conditions.

FAMOWOOD sands easily, does not gum up sander. *Takes spirit dye stains freely.* Waterproof and weatherproof when properly applied. Ready to use—*"right out of the can."* Fifteen matching wood colors with matchless wood finishes.

USED BY... FURNITURE MFGS. • SASH AND DOOR MFGS. • CABINET MAKERS • CONTRACTORS • BOAT BUILDERS PAINTERS • AIRCRAFT PLANTS • PATTERN SHOPS • HOME BUILDERS • ALL WOOD PRODUCTS

FAMOWOOD descriptive literature and price list on request.

Distributor & Dealer Inquiries Invited, Dept. WR-4

BEVERLY MANUFACTURING COMPANY

9118 SOUTH MAIN STREET • LOS ANGELES 3, CALIF.

Manufacturers of . . . FAMOWOOD • FAMOGLAZE • FAMOSOLVENT

Similar units are listed as optional for the left side head and the top profile head.

New Uni-Point Radial Saw

The newly-organized American Woodworking Machinery Co., Dept. W, Hackettstown, N. J., recently announced the purchase of sole rights to the Uni-Point Radial Saws, which they are now manufacturing. It is claimed that Uni-Point has been further improved in power saw machine design by virtue of the fact that the saw blade, however adjusted for a bevel, miter, or compound miter cross cut angle, always cuts exactly at the same point in the table. It is claimed that this "one point cutting" technique, on general shop work, will save up to 25 percent per-man-hour of production.

Ratchet-Lever Hoist

A new Model R coil-chain ratchet-lever hoist is announced by the Coffing Hoist Co., Dept. W, 800 Walter St., Danville, Ill. The Model R retains the ratchet and pawl operating principle originated by Coffing and used in previous models. This type of construction, it is claimed, eliminates the necessity of a friction brake. The load is suspended on the ratchet and pawl at all times, thus cannot slip, nor will the holding mechanism freeze.

Use of coil instead of roller chain in the Model R is said to permit the chain to swing or wrap easily in any direction. When not under load, it may be pulled freely through the hoist head for quick adjustment. The handle operates in any position, it is stated, which solves the problem of working in cramped quarters or where there is little head room. Also, the handle can be operated with either partial or full strokes, depending upon space limitations and desire of the operator. Safety stops prevent spinning of the handle.

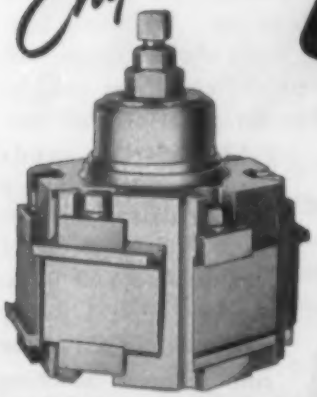
Quick-Setting Adhesive

The industrial division of the American Consolidated Dental Products Co., Dept. W, P. O. Box 2015, Philadelphia 3, Pa., announces the development of F-88, a quick-setting thermoplastic cement for use in various woodworking applications. It is claimed that this new product will set in a minimum of five minutes.

In addition to its adaptability to a

SHIMER Engineered for Production

EASED EDGE HEAD



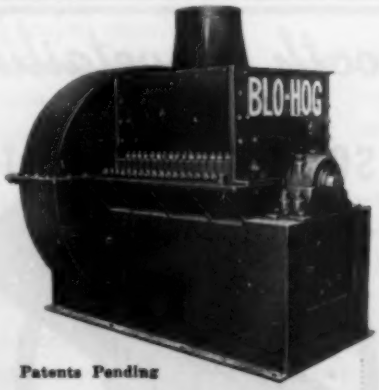
for clean, fast, low-cost
- EASED EDGING
- MATCHING
- PLAIN JOINTING
- SIDING
- SHIPLAP

Here is a ruggedly built cutter head designed for extreme long service under the severest cutting conditions, yet a head that can't be surpassed for ease in adjusting, accuracy in pattern cutting and versatility of use! Six-bit model (pictured) and four-bit model both equipped with self-centering feature and clearance-protected, milled-to-pattern bits that hold their pattern permanently! (Securely positioned bits are adjustable for various thicknesses of stock).

WRITE FOR YOUR FREE COPY OF OUR ILLUSTRATED PATTERN BOOK!

SAMUEL J. SHIMER & SONS, Inc.
70 RACE STREET ★ MILTON, PENNA.

SHIMER



Patents Pending

MONTGOMERY BLO-HOG

Eats Up Everything

. . . including Pine, Oak, Gum, Hickory, Elm, Wet Veneer Round-up and Sandy Bark.

Conveyor-fed, no attendant is required to "feed the hog."

Sturdy breaker lugs give absolute protection from major damage caused by tramp steel.

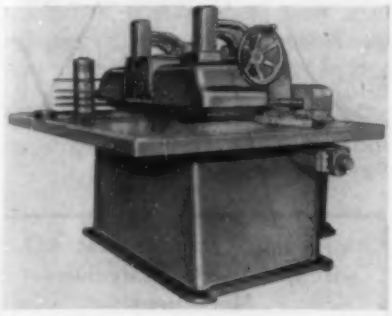
Maintenance costs unbelievably low.

Write for bulletin and details.

Jacksonville Blow Pipe Co.

Jacksonville, Florida

large variety of wood-joining jobs, it is claimed that it may further be used as a filler and sealer. F-8 is a two component system consisting of a powder and a curing agent which is a clear, colorless liquid. It is also available in a wide range of colors for matching purposes. It is said to provide a hard, tough bond that will not shrink, expand while setting, crack, craze or change shape.



Multi-Blade Rip Saw

A completely new multi-blade rip saw, with arbor mounting, table and frame of integral construction, is announced. It is called the Diehl No. 99 Multi-Rip Saw, is said to achieve new degrees of precision in gang ripping, long-life accuracy, time-saving on set-up and adjustment and greatly increased safety.

By eliminating arbor and table adjusting mechanisms and by introducing a new throat plate cutting attachment, savings in set up and adjustment time are accomplished.

Complete specifications may be obtained by writing The G. M. Diehl Machine Works, Inc., Dept. W., Wabash, Ind., and requesting Bulletin MRS-1052.

Polyvinyl Alcohol for Adhesives

From the large number of possible combinations of viscosity and degree of hydrolysis, American Monomer Corp., Dept. W, Leominster, Mass., has selected six standardized grades of polyvinyl alcohol for manufacture under the trade name "Lemol". High viscosity and completely hydrolized Lemols for compounding with polyvinyl acetate emulsions for waterproof adhesives—thickening agents—laminating adhesives—saturants for high strength paper—wet strength paper—grease resistant paper coatings—unsupported film, etc.

Medium viscosity, completely hydrolized Lemols are particularly recommended for unsupported film. Grease proof barrier and solvent resistant gasket stock. May be used in temporary protective coatings—as binder for pigmented paper coatings.

New Literature

Modern Gluing

A new booklet has just been issued on the subject "Modern Gluing in the Wood Industry," by V. Berthelsen, owner and operator of V. Berthelsen Engineering Works, Inc., Dept. W., Lockport Road, Joliet, Ill.

The appearance of synthetic resin adhesives in the thirties was in reality a revolution of the conventional gluing technique of plywood and furniture manufacturers. During the war the aircraft production gave this development a powerful push forward so that today these new adhesives can be used effectively in everyday production. This new booklet treats the subject in its various details and indicates the methods of practical gluing in the wood industry.

New Issue of Reference Book

The November 1952 issue of the Reference Book of the Lumbermen's National Red Book Service is just off the press. It is the 142nd issue of the book, which is a semi-annual consolidation of that service's twice-a-week bulletin of changes in the lumber and woodworking industries.

Lumbermen's Credit Association

For Sale

N. Y. STATE PLYWOOD PLANTS

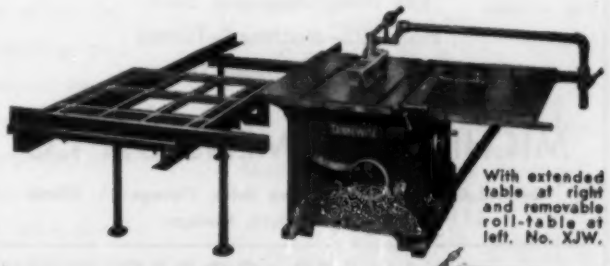
Now producing 40,000 square feet of plywood per week

Owned and operated by large U. S. manufacturer (who is consolidating his operations in another area).

- Two plants (rotary cut veneer and plywood) with total of 58,207 square feet of floor space. Room for expansion—site 62 percent occupied.
- Complete equipment. Buildings and machinery well maintained, in good condition.
- Plants located on mainline railroads.
- Loyal, diligent personnel. Good labor and living conditions.

For Complete Prospectus Write or Wire

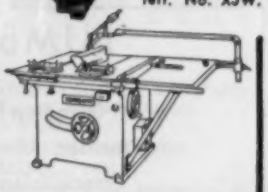
Box A-211, Wood & Wood Products
Chicago, Illinois



With extended table at right and removable roll-table at left. No. XJW.

Finest Thing in MITRE SAWS!

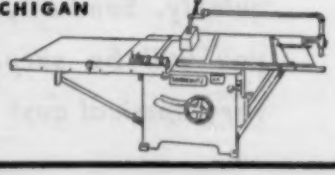
Choice of 5 different tables enables you to obtain a mitre saw that matches EXACTLY your production requirements. Does away with awkward working conditions, steps up production, and saves time and money. Nothing like it. Moderately priced. Write for Bulletin XJ.



Sliding left section top and extended table at right. No. XJSW.

Standard solid table. (No. XJ) or sliding left section. No. XJS.

THE TANNEWITZ WORKS
GRAND RAPIDS, MICHIGAN



Extended table at right—extended sliding table at left. No. XJSW—J-430.

Inc., Dept. W., 608 So. Dearborn, Chicago 5, Ill., publishers of this service, advise that as compared with the previous issue there are an unusual number of changes affecting the various branches of the industry including many newly listed sawmills, some of which are brand new sources of lumber, others are mills which have resumed their operations. Also, there are listed numerous changes in business classifications as well as in credit ratings.

Products for Industry

Publication of the third edition of "Products and Services of American Cyanamid Company for Industry and Agriculture" has been announced by the firm. The illustrated book contains a convenient listing and description of the products and services that American Cyanamid is now offering to industry and agriculture. The book also outlines the divisional structure through which such products are sold. Copies of the new publication are available upon written request to the company at Dept. W, 30 Rockefeller Plaza, New York 20, N. Y.

Kentucky Forest Survey Release

Kentucky has 24.7 billion board feet of saw timber, more than 90 percent of which is in hardwood species, according to Forest Survey Release No. 13, entitled "Forest Statistics of Kentucky," recently released by the U. S. Department of Agriculture.

The report was compiled by the Central States Forest Experiment Station of the Forest Service located in Columbus, Ohio. Cooperating in the survey were the Tennessee Valley Authority Division of Forestry Relations, the Kentucky Department of Conservation, and the University of Kentucky.

NLMA Golden Anniversary

The proceedings of the National Lumber Manufacturers Association's Golden Anniversary meeting held May 8-10 at St. Louis, Missouri, is now available in printed form. The book is a chronicle of the past fifty years in the lumber industry and carries much good advice for the next fifty. Included are all the speeches on forestry, production, lumber products, new products from wood and distribution which were persented in special sessions by authorities in each field. Copies are available from the National Lumber Manufacturers Association, Dept. W, 1319 Eighteenth Street, N. W., at $2.50 each.

A Wood Trading Post AD will find Men—Materials—Machinery

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CODE . . .	
1 Bandmill	22 Sycamore
2 Resaw	23 Walnut
3 Circular Mill	24 Others
4 Planing Mill	25 Hemlock
5 Dry Kilns	26 Pine-White
6 Ash	27 Pine-Yellow
7 Basswood	28 Spruce
8 Beech	29 Oak Planking
9 Birch	30 Oak-Car Stock
10 Buckeye	31 Oak-S.S.E.
11 Butternut	32 Oak-Truck Body
12 Chestnut	33 Oak-Timbers
13 Cherry	34 Cross Ties
14 Gum-Black	35 Oak Flooring
15 Hickory	36 Maple Flooring
16 Locust	37 Beech Flooring
17 Maple-Hard	38 Dimension Semi Fin. & Fin.
18 Maple-Soft	39 Dimension Rough
19 Oak-Red	40 Stepping Pl.
20 Oak-White	41 Mouldings
21 Poplar	42 Others

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Adhesives

(continued from page 44)

ted in the center, so that when one edge is worn to its limit, the knife can be reversed and the other edge used for cutting.

Q. 18. Are not the shavings from the scraper bulky, tending to clog the dust collector pipes?

A. 18. Yes. While these shavings are thin and easily broken up, they sometimes plug up the discharge pipes. They should be carried by a chute to the waste conveyor and through the hog.

Q. 19. Does the scraper knife travel or vibrate to cut?

A. 19. The scraper knife is stationary and is rigidly locked in position. The plywood is pushed across the knife edge by pressure rollers, which are positive in action, and can be adjusted according to the hardness of the wood and the depth of the desired cut.

Q. 20. Are scrapers adapted to pine or fir plywood, where there may be considerable pitch or resin?

A. 20. The writer's experience has been largely with hardwood plywood, where scrapers are most useful, but he is not familiar with the use of scrapers in western plywood factories. Perhaps some reader will volunteer an answer to this question. It is quite possible that the pitch might accumulate on the scraper knife and thus interefere with the sharpness of the cut.

Q. 21. Is it not true that some plywood manufacturers have tried scrapers and abandoned their use?

A. 21. Yes, and largely for the reasons given in answer 15 (above), because good scraper mechanics are few and far between. A man, unfamiliar with scraper technique, will find that the skill required can only be obtained the "hard" way, and it takes some time to acquire the "trick" (answer 16 above) of properly turning the edge of a scraper knife.

On the other hand, foreign plywood manufacturers, of undoubted ability, continue to purchase and operate scrapers.

Is this not a challenge to domestic plywood makers?

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Perkins Corox liquid ready-for-use vegetable glue is excellent for edge gluing stock to be pressed in a clamp carrier as shown above. Samples of Corox are available to woodworkers.

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A single source for all wood adhesive requirements?

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The Glue Line

The regular editions of "Perkins Glue Line", external house organ of Perkins Glue Co., have not appeared in recent months for reasons beyond our control.

The publication will appear again in the near future as a quarterly and the several thousand readers on our mailing list will receive each edition.

Glue Powder Storage

Powdered resin or casein glues should never be stored directly on a concrete floor. Moisture from the concrete will considerably shorten the storage life of the resin or casein.

If the storage room floor is concrete, place boards underneath the drums as a precaution.

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Users of Perkins Corox liquid ready-for-use glue report that excellent joints are obtained even after short clamping periods. This excellent prepared form of vegetable glue has received wood fabricator's stamp of approval for a wide variety of gluing applications.

Assembly gluing is the primary place for use of Corox, but large quantities of this glue are also used in edge bonding of corestock. Cores bonded with Corox may later be hot pressed in panel manufacture without a softening of the glue line.

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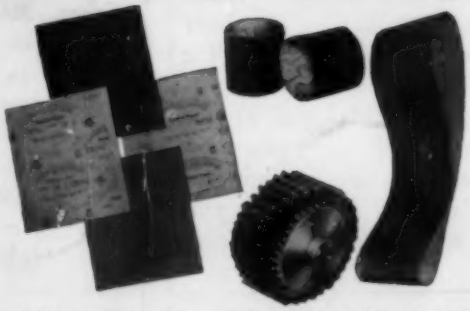

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